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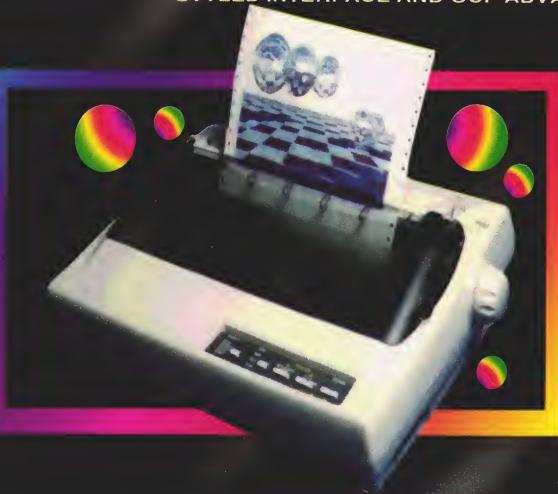
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AMSTRAD ACTION Line-up

JULY
ISSUE 106

REGULARS

4 Amscene

So, will Amstrad buy out Commodore US? Will MicroDesign 2 be finished this century? Will the person in the Blue Metro please move his car? Will you find the news on page four?

5 Letters

Reactions to our Public Domain and comms features over the past couple of issues, plus the usual completely useless poetry.

8 Reader Ads

Will somebody actually be selling a copy of Prince of Persia this month? If they are, what's the going rate at the moment?

22 Amscene Directory

Let your fingers do the walking, but never let your ears do the washing up.

28 Back Issues

Your chance to plug those holes in your Amstrad Action collection. Buy 'em now before you can't... anymore... at all... ever. Get the message?

LEISURE ZONE

26 Public Image

So what's new in the world of cheap, freely distributable, you-should-only-be-paying-for-the-cost-of-duplication and postage software this month? (I hate trying to sum up what PD is in just a few words.)

I won't hear a cross word said about it.



Check out
what's
on this
month's
covertape...

Spriting Back

You never knew animation was so easy! This superb slice of software, specially written for Amstrad Action,

SERIOUS STUFF

13 Tutorial: Basically Basic

On your marks, get set, go! It's a race to the chequered flag as... ah, all right. It's more like a chug through some slowly scrolling stars, but if you're learning Basic, it's all good grounding.

14 Techy Forum

The techy question and answer session with a difference. Well, there are different question and answers to last month - how much more different do you want?

17 Feature: Perfect Printing

Everything you needed to know about printers but were afraid to ask. Don't worry, Simon'll treat you gently. So gently, in fact, it'll feel like you did ask and got a really civilised answer that made you feel really good about yourself for being brave enough to ask (shut up Dave - Simon).



29 Adventures

North, south, south, up, up, north, pick up bean sprouts, south, down, down, use bean sprouts on duck-billed platypus, west, west, pick up Radio One, swear, re-tune radio, etc.



Finding Uridium tricky? Check out Cheat Mode for some tips.

32 Further Reading

WACC's newsletter and CPC User are the fanzines that come under expert scrutiny this month.

You haven't got Spot to help you out, but you have got Cheat Mode.



Zynaps

AA readers work hard and play harder. And Zynaps is their kind of a game. Shoot-'em-up action in its purest, most concentrated form. Get blasting.



Turn to
page 10
for all the
details.



Amscene

What's hot and not what's not on the CPC news front.

Lean, mean magazine



AA editor Dave – he's been wearing the same jumper for months now.

Go on, admit it, you've noticed. AA is now leaner and meaner than ever before! Er, okay, there's been a page cut. Sorry about that, but before you all start writing in saying, "rip off", the fact is if we hadn't taken this drastic action, the magazine would simply be too expensive to produce, and there wouldn't be any Amstrad Action at all.

But to balance things up a bit, we've got a completely new, specially commissioned piece of software on the cover tape – Spriting Back. It's a sprite editor with a difference – you don't need to be writing a game to have some fun with it. All is explained on page 10.

And inside, the mag is packed to bursting. All the regulars are intact along with a pretty darned brilliant feature designed to demystify printers. We really have pulled out all the stops to make sure each and every inch of each and every page counts – there's no flabby, page-filling Next Month or Power-Up page from now on, just solid CPC info (well, apart from this column, I suppose).

And we've got some pretty major plans for the mag and the cover tape for the next few months – we can't say what yet, but we can say that everyone who's been clamouring for more RPG coverage should be happy. **Dave**

Conventional approaches

More details on the third UAUG annual convention have been released. The event takes place on June 19th at The Hamilton Room, Church Road, Betchworth, Surrey. Doors open at 10.30 and it'll cost £1 for members, and £1.50 for non-members (but you can get that back if you join the UAUG on the day).

Apart from loads of UAUG bogs hanging around, representatives from WACCI and Amstrad Contact will be there there, and you can bet there'll be loads of new software and preview demos on show. Oh yeah, be warned – Simon's planning on turning up too.

Amstrad show interest in buying Commodore

Since Commodore US announced that it has gone into voluntary liquidation, Amstrad has shown some interest in buying the company. Competition is fierce, however, and Amstrad are seen as outsiders when up against companies like Sony and Philips. But you never know... Carlton got the TV franchise for the London area so anything could happen.

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Crystal X can be contacted at 11 Vicarage View, Redditch, Worcester B97 4RF.

Zealand News

Erm, okay, we'll forget the headline – it seemed like a good idea at the

ELSPA establish video games crime unit

Watch out pirates! Computer crimes watchdog ELSPA has set up a computer games crime unit to clamp down on software piracy and pornographic software.

The new unit will work with local police forces and trading standards offices in an attempt to wipe out illegal copying and obscene material. You might think they won't be interested in the 8-bit market, but most of the major software companies are still very protective about their back catalogues, so beware.

ELSPA can be contacted on 0386 830642.



time. Anyway, if you fancy some slam dunkin' or some other basketball-type stuff, Antipodean PD library World PD have got their mitts on a new non-PD game called Toni Kukoc's Pro Basketball Challenge. It's an arcade strategy game which'll set you back a rather hefty £14, but that does include postage and packaging.

The library has also moved to accommodate a new, expanded

range of Public Domain software, a lot of which World claim are exclusive. Selections cost 50p (but there's postage on top of that). A catalogue is available for £1 for which you also get a newsletter.

Contact World PD, 1/38c Moffats Road, Orewa, Hibiscus Coast, New Zealand. The company asks that you only send international cheques by way of payment.

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Reaction

It's the section where you are the stars... and we don't mean that we've sent Jeremy Beadle round to take stupid photos of you in embarrassing situations. Reaction is your chance to have your say about the CPC scene. Write to Amstrad Action, Future Publishing, 30 Monmouth Street, Bath, Avon BA1 2BW.

Dear AA

SHARES IN PD?
I enjoyed the article on PD software in AA104 and I would like to pass on some thoughts on it. One of the

things it seems programmers do not like is other people making money from their work. In this I do not blame them and I always feel guilty when I get so much for such a small amount of money. Maybe shareware is the answer, or something like it. What do I mean by that? Well, to my mind, shareware in its present

programs could be put forward. For example, I would like a program which would help me design a garden. With it I would be able to change the shapes of flower beds, lawns, pathways, etc., and maybe even be able to add colour and change the perspective. This is just one program that I would like which I am sure many others would also like to have and would be willing to pay a small fee for.

One last thing, could you print my address and phone number so that if there is anyone out

system you refer to of restricted distribution is known as licenceware in ST, Amiga and PC circles, and has been running quite successfully for some years, despite some claims that it is not keeping in the spirit of the Public Domain ethos. Maybe it isn't, but if it works, is there any harm in that? **Dave**

Dear AA

I HAVE A DREAM
First, congratulations on the excellent AA104. You seem to have the right balance in your team of staff and contributing writers – especially with the return of Rod in his retrospective of old Arnold.

Yet at the same time the issue was saddening. It referred to the demise of 8-bit computing and the CPC in particular too many times, and sought to find ways of extending the life left to the machine by attempting to improve the status of public domain. Oh it may well be a good idea to

have PD regulated in a looish sort of way, and there's a great deal to be said for encouraging software houses to thank the CPC public for its past support by donating deleted titles to those libraries. Good ideas both, but they represent a stay of execution rather than a permanent solution.

Mankind has spent a great deal of time devising wonderful artifacts and almost as much time agonising over their demise. There must have been many a Roman who mourned the passing of the toga and maybe even more Victorians who shook their heads sadly as steam took over from sail on the high seas. If a time traveller from the 30th century were to visit this century, there would be loads of stuff that we think of as technological marvels that he would have forgotten completely. When television came along there were many... (yes, okay, we get the point – **Dave**).

But all is not what it seems to be. The toga lived on, and so did the sail. We mourn and in some of us remember in a more positive way and preserve. And that's what's going to happen on the CPC. In fact it's happening now. The enthusiasts are taking over and although things may seem to diminish, those enthusiasts will write their software and keep the electronic marvels we sit in front of alive for as long as the machines still function. Steam railways are still being run in part by enthusiasts who never knew the reality of steam. Our offspring, the unborn future, will

LICENSED TO SELL PD

Dear AA

LICENSING LAWS

My friend and I want to start up a PD

library but we want to know whether we need a licence to distribute stuff in a library 'cos my older brother says we do, but I'm not just going to take his word for it.

**Peter Gomori,
Cambridge.**

PS What happened to Zynaps?

PPS Please do put some RPGs on the cover tape.

PPPS What does a CPC64 look like?



You don't need any licence to set up a PD library.

Anyone can set one up purely by collecting together some PD and then declaring themselves a PD library. **Dave**

PS It fell through a time warp onto this month's cover tape.

PPS Right, the votes are in and counted and the result is... we'll have to start looking for some RPGs to put on the cover tape.

PPPS A tasteless 6128.

there who would like to have someone to talk CPC with, they can contact me.

Brian Key, 87 Sweetman's Road, Shaftesbury, Dorset SP7 8EH **0747 851029.**

Certainly some of the stuff we see in the public domain is of a very high quality and it seems a shame the programmers aren't getting any reward for their efforts – though you could argue they know the score when they release their stuff into the public domain. But if there was some financial incentive maybe that would encourage even more people to write quality software. The

That is one idea. Another is that, through your magazine, ideas for

contain a few individuals to whom an early home computer is more than a museum piece, but a useful functional thing with a charm of its own. I even think it's possible that one distant day Alan Sugar may try to cast his own brand of unhelpful gloom over the CPC from the darkness beyond the grave.

True, things will get harder when AA, the main avenue for CPC communication, yields to commercial pressures and closes. But the future of the CPC is assured, at least for my lifetime. If mine breaks the second-hand market will provide a replacement. And I'll load up Protext most days and write my dreams on paper, hoping for one day publication and perhaps recognition.

Finally, keep AA with the same creative staff as issue 104, for goodness sake. You only need an Editor, a Hairy Thing, an Art Editor and a few expert contributors. It's better like that, you know it makes sense. **Planet Rogerson, Nottinghamshire.**

There was an attempt made on the Amiga PD scene for a voluntary regulatory code a



IT'S HUGE

Last month (AA104) in Reaction you made a plea for more info on the German hard drive. It just so happens that the now defunct Amstrad Computer User magazine ran an article on it in its February 1991 edition.

The drive was called the Dobbertin HD20 and apparently had a 20Mb capacity (as the name suggests) and sported the rather heavy price tag of £400. The ACU reviewer couldn't provide a truly in-depth review because the instructions were all in German, but he did provide some info. The HD20 was supplied by a chap named Fritz Obermeier and, apparently, was about the size of an elephant on steroids. Despite its bulk it was a nifty piece of equipment. Like most hard drives it split itself into several small logical drives, four in this case; D, E, F and A. It also came with several useful new bar commands supplied on ROM, and, when tested, would install and run successfully many popular programs (MEX, Protext, etc).

Now for some questions:

- In your opinion, what is the best football management sim on the 464?
- Is the GAC manual for the covetape program still available? If not, any chance of getting one printed? Alternatively, where can I obtain one, and at what price?
- I am having difficulty in getting Zapp Assembler to accept some legitimate commands. Some of the commands are db 0, db &21, dw 1, limit &xxxx, rst 3, defb "string", and defb &ff. This isn't another problem with labels, I'm fine with them (so don't throw a wobbly)



POETIC INJUSTICE

I was scribbling away during a lesson, then I looked at my book. I found that the scribbles had formed words. What a surprise to one and all. These were those words:

When a month has passed away,
There comes an issue of AA,
It is delivered through the door,
I see it lying on the floor,
The packaging open wide,
The magazine jumps from inside,
I pick it up and gaze through,
I look at the words and the pictures too,
I read the tape pages to find out,
What we have got, I give a shout.

"It's great!" echoes down the lane,
I throw a paper aeroplane,
And then Reaction, it's great fun,
Techy Forum's another one,
And if the game's good, game reviews,
Some games you really can't refuse,
I read the other sections too,
(I suppose that's what readers do),
I hope you found this poem good,
Send me a prize, I think you should.
Thomas Lovell, Peterborough.

I feel that the underlying themes here are nicely underpinned by a scatological metre which reinforces the impression that the author really isn't destined to be poet. Like the sentiments, though. But no, you can't have a prize. **Dave**

few years back, but it never really came to much, and I doubt whether it'd work on the CPC either, unfortunately.

As for your other points, yes, I think that talk of the CPC's death is premature.

Even if AA closes there will still be a dedicated band of people who still use their CPCs and who will keep it ticking over. The analogy I like to draw is with pop music. The CPC and the Spectrum are the Beatles and the Stones of the home computer world (the C64 is quite possibly the Monkees, while the Oric is a definite candidate for Dave Dee, Dozy, Beaky, Mitch and Titch) - they defined the genre. Everything that has come since has been variations or elaborations on the theme. The Amiga and the ST are more like Genesis and Queen (they'll be remembered fondly but with not for any great contribution they made to the form) while these consoles are little more than The Osmonds and Abba (massively popular, but they'll be remembered more for their marketing than anything else). **Dave**



YOU'RE HOPING

I don't have much money at the moment? Please could you send me some. You've got my address, Cheers.
Thomas Lovell, Peterborough.

No way, mate. Hang on, weren't you the one after a prize for that poem? Don't you ever give up? **Dave**



BIG, BLUE AND BORING

I liked the comms piece in AA105, though IBM haven't made any really Big Money since people stopped buying Incredibly Big Machines. This doesn't stop IBM from producing Incredibly Boring Machines.

A couple of tips for transferring ASCII files; save them ragged right (otherwise known as justified to the left - **Dave**), otherwise they're a pain to reformat, and leave a blank line between every paragraph.

I agree with you about The Cuckoo's Egg - well worth reading.



A hard drive the size of an elephant.

Finally, in the mid-80s most industrial robots were using 4-bit chips, so using an 8-bit ZX81 or a PCW or a CPC would be a real luxury and the plain edge connector on the CPC and PCW meant that adding process control signals is a doddle - if you know what you're doing.

John Relatively Hudson, Huddersfield.

Thanks for the tips. I know from personal experience the problems of porting ASCII files - I spend hours every month finding and replacing weird control codes in text which appear from nowhere. **Dave**



READING DISORDERS

I have recently bought lots of games for my CPC, but most of them won't work. Sometimes, they say, read error b, or when they have finished loading the screen goes blank. Is this the tapes or is it my computer?
Mark Catterall, Wigan.

That'll be a tape problem, then. If you get a read error b, it means there's something slightly wrong with the signal, such as volume. If you're using a CPC6128 with external tape deck, try fiddling with the volume. Read error a, in case you ever come across it, means that the signal has stopped dead. If fiddling with the volume doesn't work, try adjusting your tape head, though take the whole thing to a repairman if you're not sure how, as we take absolutely no responsibility for people 'damaging' their equipment. It's probably just a volume thing, though. Failing that, nip out and buy a tape head cleaner, and run it through your machine a few times. **Simon**



DO IT OR ELSE

1 Your cool!!!
2 Good idea to do 'cop out page fillers'.
Pete Deneuve, Halifax.

3 Is there any chance that you could put the Mask trilogy on a covetape?

Let's settle out of court - I know someone with a really good vax.



NEXT MONTH

WEIRD!

Heard the one about the disk to tape transfer program? Or the one about the red box that lets your CPC open your curtains? Or the one about the CPC burglar alarm kit? Or the one about the word processor without a print option? Do they sound a bit weird? Do they sound a mite bizarre? Well, they all exist, and you will be hearing all about them next month when **Amstrad Action** takes you on a guided tour around all that's weird,

PLUS - an exclusive preview of **Campussoft's** forthcoming video titling package, news, reviews, an astounding covetape packed with goodness and all the other reliably brilliant usual stuff.

AMSTRAD ACTION

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USER GROUPS

WACCI, the UK's premier CPC Club and user group. Did you know WACCI runs a book library? Send an SAE for details to: 7 Brunswood Green, Hawarden, Clwyd CH5 3JA.

WANTED

Any software for Amiga 500. Are any PD libraries giving away PD for the Amiga? (You bet they are - Dave.) Write to Mark Caldwell, 356 Kenley Close, Liverpool L6 3BJ.

Buying goods through the post

There are loads of great bargains to be found in this Reader Ads section and the other adverts scattered through the magazine. But some of you might understandably be a bit reticent about sending money through the post for goods you haven't seen to somebody you've only talked to over the phone. But don't panic. Just follow our simple guide to buying goods by post to minimise any risks.

Before ordering anything try to contact by phone to the person or

company advertising the goods you want. Write down a list of questions you want to ask them - clarify the price, who will pay for delivery, compatibility, etc.

Keep records of all correspondence and phone conversations with the people you're ordering stuff from.

If a problem does occur, the first place to contact is the person or company you're ordering the goods from. Be calm and explain the problem clearly. Most faults are just mix-ups and can be sorted out.

Never send cash through the post. If possible use a credit card because it will probably give you some form of insurance. Failing that use a cheque or PO.

Disk drive plus interface for CPC464. Any expansion RAMs. CPM program. WordPro and any other programs, manuals, etc. Details Firth, 7 Burned Grove, Shelf, Halifax HX3 7PU. 0274 679178.

6128 compatible 3.5-inch external disc drive. ROMbox, Protex, Prospell, Promerge, RAMDOS ROMs, KDS 8-bit printer port and associated manuals. Any reasonable price paid. Joe, 0553 770966.

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FOR SALE

I want arcade games like Arcadians, Croaker, Defender, Killa Gorilla, Snake, Magic Mushrooms, Martian Attack, maze and many more. Spencer Wilson, El Shaddai, Mountain West, Derrydonnell, Olanmore, Co Galway, Eire, Tel 091 90390.

I want a 64k memory expansion (my mum always told me, "I wants' get nothing," - Dave), a Multiface 2 and an FD1 second drive for 464 and I want a 464 Plus and AAs 1 to 96 plus covertapes. Spencer Wilson, El Shaddai, Mountain West, Derrydonnell, Olanmore, Co Galway, Eire, Tel 091 90390.

Tape deck for CPC6128. Will pay up to £8. Contact Simon from 5.30pm to 9pm. 0634 574007.

Wanted: PD for library. Already contains 150 titles. The first two people to send 10 titles I do not have will win a boxed 3D Kit. One contains a bonus gift. For free PD contact John Jones (Hi, how are the breasts? - Dave), 41 Westmoreland Avenue, New Biggin By-The-Sea, Northumberland NE4 6RN.

CPC6128, Multiface 2 and ROM board with ROMs. Tel 0483 814321 and ask for Sean.

Wanted: disc versions of Fighter Bomber, Airborne Ranger and War In The Middle Earth for CPC6128. Good price paid. Phone Vince evenings on Milton Keynes 0908 502868.

Wanted: Draughtman by EG Computer Graphics. Willing to pay its price (£25) for disc version. Please write to S Val, 90 Long Innage, Halesowen, West Midlands, B63 2UY.

Commodore 64/Amstrad 6128. Wanted, persons for swapping stuff, information, etc. I also want to contact guys who are good programmers for making a team. John Fellides, Chrysopolous 1 Street, Post Code 16231, Virona, Athens, Greece.

Power 128, also better quality larger size fonts to use with this and other similar programs. Please write to John Cleal, 25 Rothbury Road, Hove, East Sussex BN3 5LG.

Early AAs wanted. Issues 1-16, 18, 22, 28, 34-36, 39, 40, 45-47, 49, 52, 61, 67, 69. Will pay. Please phone Frank on 0532 668798.

Printers wanted urgently. Any of the following printers required: Amstrad DMP 2000, Epson RX80/FX80/LX80, Canon PW1080/A/BJ80, Kaga KP810. Write to Rizavan Iabali, 373 Rotton Park Road, Edgbaston, Birmingham, B16 0LB.

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Penpal wanted: any age, any computer (please specify when writing). Contact Andrew Hughes, 12 Colliers Close, Woodhouse, Sheffield, South Yorkshire S13 7DE. Willing to help beginners. (Any computer means Amstrads.)

AA72 with covetape (features Devpac). Contact Andrew Hughes, 12 Colliers Close, Woodhouse, Sheffield, South Yorkshire S13 7DE.

CPC6128 operating manual, also Gunship, Bard's Tale and Ancient battles. All on disc. Instructions not needed. Good price paid. Phone Vince, evenings, Milton Keynes 0908 502868.

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6128, colour monitor, joystick, 6 AA covetapes, over 30 games, tape and disc. Discology and other serious utility discs. £195. Tel 0294 823077 after 4pm weekdays. Ask for Duncan.

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35 games, all on disk, including Elite, Arkanoid, CTM64 colour monitor. Two joysticks, etc. £70 (CPC 6128 thrown in as well, but its disc drive is a bit faulty). 0865 241128.

Amstrad CPC6128, colour monitor, some disk games and tapes. Cassette player with lead. Desk and chair included. £75. Tel 0703 786520. Buyer collects.

Tempest, Swevo's World, Fruit Machine, Tetris, Batman, Crystal Castles, Realm, Mr Freeze, Vampire, House of Usher, Supersleuth, Rollaround, Lop Ears, Mindtrap. £1 each. Tel Chris 0293 612987.

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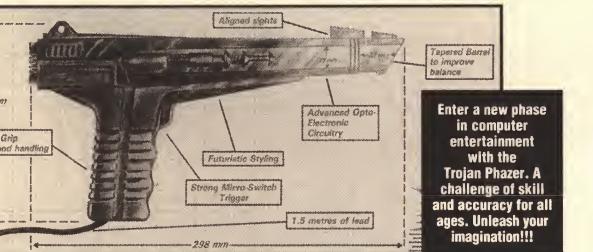
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Serious ACTION

Spriting Back

You've just been given a sprite system on the covertape, you know. Now it's up to Simon to show you how to use it to create your own moving images. God help you.

Great cover this month, huh? And what it's referring to is pretty great, too - a sprite system with an editor strapped on the back (but then, you would say that; you wrote it - Dave). This is the way we do things at AA - we've given you the opportunity to animate your pictures quickly and easily with this fab system. So read on and find out how to...

- ANIMATE SMALL SECTIONS OF LARGER PICTURES
- MOVE SMALLER OBJECTS AROUND!
- CREATE GREAT SPRITES WITH EASE!
- PUT TOGETHER THE BONES OF AN ARCADE GAME!
- WRITE IMPRESSIVE PROGRAMS

Zynaps

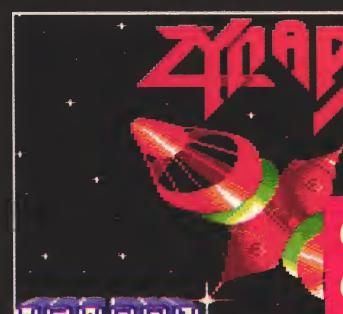
The light struck his visor in an especially, pleasingly aesthetic way as Commander Zynaps climbed into his ship (I wondered how you were going to explain that title - Dave). He had a difficult mission ahead of him; he had to defeat the evil forces of Harabsnabi before they could take over the planet and enslave the entire population. As the sun set spectacularly behind a large, silvery mountain, Zynaps powered off into the evening sky, leaving a vapour trail burnt into the stratosphere like the scarred flesh of those who had fallen before him.

After about 15 minutes flight, he sighted the enemy fleet, and realised at once what a mistake it had been - they stretched away into the distance for miles, filling his entire field of

vision with heavily-armed, gleaming ships. There were millions of them.

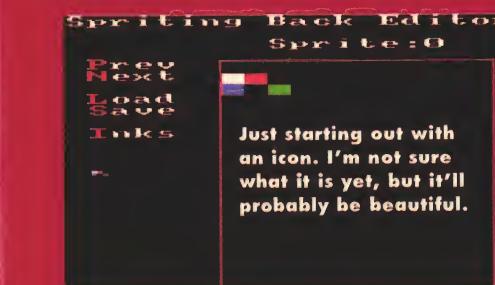
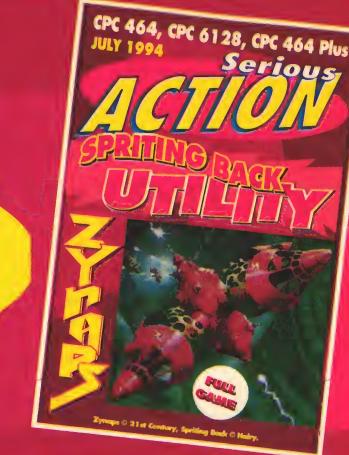
There was one of him. Just the one. Zynaps was afraid. He wished he'd taken his brother's advice and set up that bar on Malibu beach. It was too late now, though - he was so obviously going to die, and there was no way of getting out of it. If he turned around he'd never make it back home, and even if he did they'd come and get him there, absent-mindedly trashing an entire civilisation in the process.

In a blind panic he noticed an asteroid just a few nautical miles below him (that's how they measure distance in space, you know). It was obviously empty as it was covered with a ruined space complex pitted with the scars of its



COMPLETE CONTROL

And so it was that Captain Zynaps was left flying from left to right through a strange terrain, using his joystick/pad to manoeuvre his ship. He discovered that he could use the power ups by holding down his fire button until his ship flashed, at which point the next weapon would slide into place.



ISPRDIS,addr,xpos,ypos,wdth,lngt

This displays a sprite on-screen. The parameters (numbers after the command) refer to where the sprite is displayed on-screen and how big it is.

ISPRDEF,addr,xpos,ypos,wdth,lngt

I'm not repeating myself, honestly. This works in the opposite way to the display command, taking a sprite from the screen and putting it into memory, to be displayed later on. We'll go through defining sprites manually when we deal with big picture animation.

IFRAME

In a fit of being nice to people, 464 owners might appreciate this command. It's already present on the 6128, but being invaluable as it is we thought we should give it to everyone else. It's used to smooth out animation, by waiting until the optimum moment for drawing on the screen. Use it just before our sprite display command, and it smooths things out.

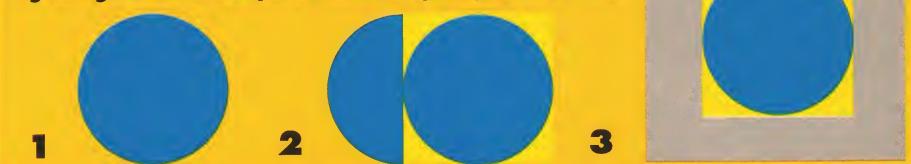
The Editor

The sprite editor enables you to draw up to 16 sprites in a magnified mode. You could, if you wanted to, draw the same sprite in 16 different frames of animation, but that's a little over zealous to start with. You could draw 16 different sprites if you wanted to, or eight sprites with two frames of animation each.

Whatever mix of sprites you choose, this editor couldn't be simpler to use - just doodle and draw what you want. All you really have to do is remember which sprite number refers to which sprite. The cursor keys move your little flashing cursor around the screen, and the numbers 0 to 9 will plot that pen colour. To delete a pixel then, you hit 0, as you're effectively writing a pixel in the background colour (it's like using Tippex).

If your sprite is wider than the window you're editing it in, the window will scroll when you move

If you draw a sprite with no border (1) then when you get the sprite to move, bits of the sprite will remain on-screen where in the previous position (2). So draw a border (indicated in grey in picture 3) the same colour as your background that's big enough to cover the space where the sprite previously was.



your cursor past the edge of the window, letting you move around the whole sprite effortlessly. But you can only design them up to a certain size - the program will make sure you don't design any overlarge sprites. To switch to the next sprite, use the P and N keys, standing for 'previous' and 'next'.

To save and load your sprite file (which is 4k in size), you can hit either S or L, though if you've got a sprite file loaded into the command system when you run the editor, you can edit that instead.

Pick a mode

This sprite package works in any mode, as the measurements aren't made in pixels. Instead, the screen has been divided into a grid, 80 squares across and 50 squares down. All measurements are made on this grid when referring to the position and size of a sprite. This is now our standard unit of

The easy way to create an animated picture

What about when you want to animate a small part of a larger picture? Let's take a quick walk through the steps to animating a larger picture.

We'll start with two pictures that you have already created in n art package, with only a few differences. This could be one picture of a background, and the next picture with, say, a window opening on a house.

1 We take our original two pictures (you can do more in a row if you want, but the same method is used repeatedly, so we'll stick with two for now). First, mentally draw boxes around the area of the picture that changes, working out the size and position of the box in our unit measurement. For this example, we'll assume the box is at 23,11, and has the dimensions of 8,5 (eight units wide, and five units high).

2 For this method of animation, we load the command system into memory. Next, we load up picture two and use the SPRDEF command to define that changing area as a sprite. Let's say we had an area, the top corner of which was 23,11, and the dimensions of 8,5. Our program to do this would be:

10·MODE·0 (set up our mode)



Our sprite is just the part of the picture that changes - clever little trick, don't you think?

the chunk of the picture that'll change and storing it in memory

3 Next, load up the picture, wait for the user to press a key (you could just leave a

delay loop to do this if you wanted to) before changing that part of the image:

10·LOAD·"!SCREEN1.SCR",C000 (load the first screen into memory)

20·CALL·&BB06 (This just waits for a keypress)

30·ISPRDIS,20000,23,11,8,5 (This displays the part of the picture that changes over the correct part of the old picture)

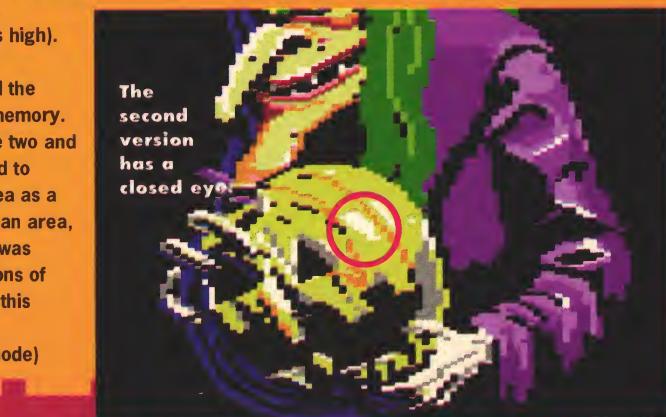
4 If we wanted to add another frame to our animation, we'd simply load up that screen and define the same area again in a third position. We do need to work out how much memory the sprite takes up, so don't write over the first one. If you take the height, multiply it with the width, and multiply that result with four, you get the length of the sprite.

The sprite would be 8x5x4, making 160. Your next sprite sits at 20160, then. You'd end up adding the following lines to the final program, as well (once you'd defined it again using step two):

40·CALL·&BB06

50·ISPRDIS,20160,23,11,8,5

So grab a title screen and get experimenting.



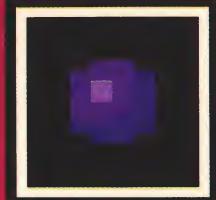
The second version has a closed eye

measurement. All you have to do is remember that, and you'll be absolutely fine.

We still need a mode, though. The editor works in mode 0 (as do most games), though that's no reason to feel at all restricted to that mode (it's got lots more colours, though, so it might be the one to use). You could have your game (or whatever) in modes 1 or 2 – it's totally up to you. If you do plan to use a different mode, though, you'll have to do something else about editing your sprites. You'll use mode 0? What a sensible decision...

Pick a project

In order to demonstrate how you can use this package, we're going to do two different things. First, we're going to bounce an object around a screen and second, we're going to animate a chunk of a picture. When you've grasped these two ideas, you'll have pretty much got the hang of sprites and what you can do with them. We're going to start with the bouncing idea, as you'll learn a lot more a lot quicker that way. We're going to start with a ball.



It's my ball. If you don't think you can draw as well as this you've got real problems, kid.

1 Load up your sprite editor, and start editing sprite 0. It needs to have a width and height of four units, making it eight pixels wide and 16 pixels high. We're going to draw this sprite with a strip of one unit running around the edges, for reasons we'll come to in a moment. All you have to do is work with the cursor keys and ink keys (the numbers) to produce a sprite to those specifications, after setting the dimensions of the sprite by hitting D and entering 4 and 4 again. You can feel free to knock up your own ball (as long as you keep it the same size).

2 Save out the sprite file (by hitting S) and reset your machine. Load up the command system (the first program) and use the following command to load your sprite file:

MEMORY:&8FFF:LOAD,"SPRFILE.BIN",89000

* This is the command you will always use to load up your sprite file (containing up to 16 sprites, although in this example we've only drawn one).

3 To display your sprite, you have to use:

ISPRDIS,&89000,1,1,4,4

The first number needs a little bit of explanation. The sprite are numbered from 0 through 9, then A to F. You put your sprite number in place of the first zero (sprite 7 is at &8900, and sprite B is at &8B00).

The next two numbers are the sprite's location on the screen. To display it five units in and seven units down, the numbers would be 5,7.

The final two numbers are the sprite's width and height, which in this case will be 4,4 because that's the size of our ball.

Spriting Back Editor

Sprite : 0

Prev Next Load Save Inks

A nice big terrifying ship. Boy, can I draw or what?

Disk 106 Token

4 If you wanted to move it across the screen, you could use:

```
FOR:x=1 TO 40:IFRAME:ISPRDIS,&89000,x,5,4,4:NEXT:x
```

This works by just increasing x, and displaying a new sprite one unit to the right of the first. The border around the ball that we defined earlier draws over the parts of the old ball we could still see.

5 Now we're going to write a simple program to move the ball around the screen in a straightforward Breakout-type manner. You don't have to understand this, but those of you who're into BASIC might appreciate it:

```
FABJ 10:x=1:y=1:xd=1:yd=1
FAHC 20:x=x+xd:y=y+yd
BAOO 30:FRAME
FAJP 40:ISPRDIS,&89000,x,y,4,4
FAMO 50:IF:x=76:THEN:xd=-1
EAEN 60:IF:x=1:THEN:xd=1
FAOD 70:IF:y=47:THEN:yd=-1
EAIN 80:IF:y=1:THEN:yd=1
CAEE 90:GOTO:20
```

And there we have it. You could add a bat and a few bricks if you really wanted to, making a full breakout game (I might print a listing for one in next month's Type-ins if you ask nicely).

Anyway, the general idea is that you can move an object around by making a blank strip (like the one around our ball) obscure the old image of the ball completely. You could think of it as an eraser following the ball around in all directions. Anyway, this is what it looks like on paper:

For a game system, you'd use a small strip and draw it on separately so that the ball didn't take chunks out of walls when it bumped into them, but that's something you'll only really need once you start to write big games.

If you wanted to animate the sprite as it moved, you'd display sprite 0 in one position, changing the sprite number when you change the sprite position (you have to draw the other frames, though). As this makes the sprite change from position to position, it becomes animated. Let's say you'd drawn three sprites in varying stages of animation using the editor. Animating that sprite would be very simple: 10:sp=0 (the sprite number)

```
20:FOR:x=1 TO 20 (sets up the increasing x position)
30:addr=&89000+(sp*256) (calculates the sprite's address - you can use this in your own programs)
40:ISPRDIS,addr,x,5,4,4 (displays the correct sprite from the correct address at the correct position on screen)
50:sp=sp+1 (increases the sprite number)
60:IF:sp=3:THEN:sp=0 (making sure it doesn't get too high)
70:NEXT:x (and loops round)
```

And that's how we move objects around the screen the easy way. To make things smoother, we use the mystical FRAME command. The mechanics of this were explained in more depth in issue 101, but all we need to know is that it's handy for smoothing out animation. 6128 owners just use the FRAME command as normal as their machines have it as a part of BASIC whereas 464 owners can use the IFRAME command they now have. They could just use CALL &BD19 but this is a lot less messy, frankly.

The command works by waiting for the dot that whizzes across the screen making up an image of light to arrive at the top-left corner. This means that if you do all of your time consuming calculations, use the FRAME command and then carry out your actual display operations, things should be smoother as the scan line won't overtake your printing and cause a flicker.

Next Month

Well, that's the basics of what you can do with Spriting Back, but there's loads more things you can do with it. And we'll be telling you about a few more of those things next month. In the meantime, have fun.

Loading instructions



Getting started

To load up either side of the tape, simply rewind it, hold down CONTROL and press ENTER. Owners of 6128s or 664s will have to switch their machines to work with tape by typing !TAPE first.

Tape to disk offer

If you've got a disk drive and you want to get a disk version of this month's tape it's easy. Whip out your scissors and cut off that token at bottom of this page, chuck it in an envelope along with your name and address and a cheque or postal order for £2 made out to Ablex Audio Video, then send off the whole kit'n'kaboodle to:

**AA106 Disk Offer,
Ablex Audio Video,
Harcourt,
Halesfield 14,
Telford,
Shropshire TF7 4QD.**

Loading troubles?

We make the greatest efforts to ensure our cover-tapes work properly, but if you've tried all that and your tape's still not loading then pop it in the post (with a note telling us your name, address, type of CPC you use and a brief description of the problem) to:

**AA106 Covertape returns,
Ablex Audio Video,
Harcourt,
Halesfield 14,
Telford,
Shropshire TF7 4QD
0952 680131**

NB When returning faulty tapes could you please also include a stamped, self-addressed envelope. Thank you.

Basically Basic



Our regular beginners' guide to Basic shifts up a gear, as Simon Forrester explains how to write a racing game (well, a sort of racing game anyway - what do you expect in Basic?).

Before we start, I'd like to introduce you to a new explanatory device of mine. It's called The Voice Of Reason (Hi there – Reason), and it'll be asking the questions that you would ask if you could but you can't – well you could, but talking to a magazine is more likely to get you locked up than an answer (are you going to get on with it? – Reason). Yeah.

By the end of next month, we're going to have written a scrolling race game. Unfortunately, this will be for users of BASIC V1.1, as 464 owners don't have one of the vital commands for testing when you hit something. I might print some little listing to add the command to BASIC for them, but that'll all next month.

First, let's write a program to draw a course and scroll it. This'll be a very crude way of doing things, but it'll work. Slowly. Next month, after we've added

our player, we'll look at possible ways of speeding things up. Anyway, our listing:

```
BAIF 10:f=4
DAOB 20:LOCATE:1,25
BAEJ 30:1$=""
DAAM 40:FOR:x=1 TO 39
DADM 50:b=INT(RND*50)
IAEB 60:IF:b/f<>INT(b/f)THEN:1$=1$+"
HACO 70:IF:b/f=INT(b/f)THEN:1$=1$+"
CAPF 80:NEXT:x
CAGM 90:PRINT:1$
CANG 100:GOTO:30
```

What the...?

Those lines 60 and 70 really are complicated, aren't they? Let's take a look at what it could all mean. For now, we'll just use the section we need:

IF:b/4=INT(b/4)THEN
First, we need to remember that 'b' is a random whole number. All we're actually doing is asking whether b + 4 is the same before and after it's been converted to a whole number (we're asking whether b is divisible by four, like tossing a four sided coin – Voice Of Reason).

The line containing the <> symbols is simply asking whether the two values are different. Using these two commands, we can toss a four-sided coin, making one cell in four an obstacle. To change the difficulty level, reduce the value set-up in line 10. If you set it at two, every other cell would be an obstacle, and the game would be impossible. Try it at ten, though – what happens then?

20:LOCATE:1,25

The LOCATE command simply places the text cursor at the coordinates given. In this example, the cursor will land one square in from the left, and at the 25th line.

30:1\$=""

This string is going to contain the obstacles for each line, ready to be printed at the bottom of the screen.

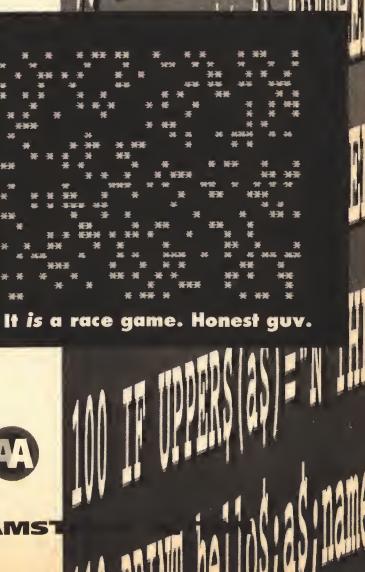
100:GOTO:30

...And loop back to the next line of obstacles.

That's it, then

All you have to do now is type RUN, and watch those stars fly (well, crawl actually, but you get the point) up the screen.

Next month, we'll be adding the player's ship (or snake, maybe), and working out how to check whether we've crashed into anything recently. Have fun.



CPCs, printers, disc drives, modulators, ROMs, huge bowls of pasta with sausages, mushroom sauce and ham... these are Richard Fairhurst's specialities. Oh yes, and apple turnovers.



Smart, (kickin', crucial)

- 1 What is the purpose of the analogue socket on my CPC464 Plus?
 - 2 Which is the best first disc drive for the 464 Plus, and where can I get it?
 - 3 Is the Smart Plus art program from Radical really as good as it looks on the advert?
 - 4 Are there any organisations/clubs for Amstrad users that I can get in touch with?
 - 5 Are there any modern noticeboards for Amstrad users I can use?
 - 6 Which word-processor would you recommend?
 - 7 Where is the best place to get cartridges?
 - 8 Are there going to be any serious programs released on cartridge?
- Avalanche Pateman, Portsmouth



- 1 The socket is there so that you can connect an analogue joystick, as used on PCs and BBCs. Normal joysticks only sense whether you move them left, right, up or down. An analogue joystick also senses how far in each direction you move it, and, in consequence, how fast you've moved it. This would be great for driving games, for example. However, we don't know of any games that support it.
- 2 Siren will sell you an all-in-one model for £159.99 (061 724 7572), or BTL (298 Holton Road, Barry, South Glamorgan) will fit an interface to your machine for £35 – this requires a disc drive, such as Siren's which retails for £64.99. If you want to use more than 360k per disc, you'll need a disc operating system such as ParaDOS (also from BTL).
- 3 Yes, it's excellent.
- 4 The United Amstrad User Group hangs out around your area a lot (0329 234291).

Techy

5 See our humungously brilliant feature on Communicating Computers last issue for details (hang on – who wrote that feature? – Dave).

- 6 Brunword's good for letters and generally well-presented documents, whereas Protext is tops for serious text-crunching.

Line up

- 1 I own a CPC 6128 with an Amstrad DMP 3160 printer attached.

Whenever I try to print from Mini Office or

PowerPage, I get big gaps between each line so pictures never come out properly. I have tried fiddling with the DIP switches and have read the manual through twice, but cannot find anything to help me.

2 I am thinking of getting a PC. Can I buy a modem that will work with both the PC and CPC? Do I need any additional equipment to make it work with my CPC, and how much will it all cost?

3 Can I log onto the Compuserve network using my CPC?

4 Can you attach an HP Deskjet 550c to a CPC, and will it print Art Studio pictures in colour?

5 Can't someone come up with an add-on that would make the CPC PC-compatible?

6 Can I remove the ROM inside my CPC and replace it with a Protext ROM so the computer automatically loads Protext when I turn it on?

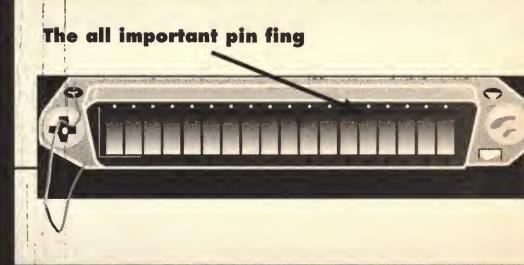
Nick Carn, Bognor Regis

1 Amstrad wired one of the connections on the CPC's printer port incorrectly, which causes most printers to generate a blank line after each line printed. The solution

7 Try either Trading Post (0952 462135) or Trojan (0554 777993).

8 Campursoft are thinking about putting some serious stuff on cart, but there are no firm plans yet, so don't hold your breath. Richard

is to take a very thin piece of sticky tape and place it over the appropriate connection – 'pin' 14 – of the CPC's printer port. Pins 13 and 15 are unused, so you can cover them too. This is what it looks like from the back:



2 Any modem will work with both the PC and the CPC. You'll also need a serial interface for the CPC – check out the main feature last issue for details (could I direct you to our back issues service on page 28, sir? – Dave).

3 Yes.

4 You can connect one, but Art Studio still only prints in black-and-white. The Colourdump 3 program will print out in colour, but only, unfortunately, on Star printers – although a bit of hacking would be able to change this.

5 What would be the point? If you want PC compatibility, then buy a PC.

6 No. You'd be losing all the CPC's built-in routines if you did that – ones which Protext uses. In addition, Protext isn't designed to kick in automatically when you start your CPC. Richard

7 Having a disc of previously-written subroutines saves reinventing the wheel by writing the same old stuff again and again. As in all walks of life, a little bit of effort to begin with saves a lot of cursing and tedium later on.

8 Before you make any major changes to a program, back up the old version of the source code, just in case your modifications don't work out – you'll live to regret it otherwise.

9 If you can, locate your program no lower than \$1000. This way, you can use BASIC to help in the debugging process (you know there's going to be one – you can't pretend it won't happen).

10 When something's not working and you can't see why, take a break, do something else and come back later – when I've finished these tips, I'm back off to work on CharleyTracer.

In the second instalment of our Ten Top Techy Tips series, we've some ideas for possibly the most frustrating occupation of all – programming in machine code.

1 Buy yourself a calculator that can cope with sums in hexadecimal. It makes everything a lot easier, especially when you're using the Multiface's Toolkit for debugging. And while we're on the subject...

2 Buy yourself a Multiface.

3 If a routine doesn't work, check that all the correct bits are being executed by making each routine beep in turn. You can do this with ld a,7: call &BB5A.

4 Lay your code out neatly, especially making sure to tabulate push and pop instructions.

5 If you use Maxam, you can sub-divide your code into multiple files, so when you've finished one section, shove it in another file and read it into the main file using the READ directive, and it need never clutter up your source file again.

6 The most common bug in a machine code program comes about when a subroutine unexpectedly corrupts registers. Document the entry and exit conditions of each routine meticulously to avoid this.

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5 If you use Maxam, you can

playing up something rotten. If I try to print out a text document, it almost always turns into gobbledegook halfway through. If I try to print out some sort of graphics using OCP Art Studio, it starts off all right but it keeps on cutting out. I have tried cleaning the contacts on the printer lead and the circuit board connector, but alas to no avail. I would greatly appreciate it if you could give me some idea as to what I am doing wrong, because it is driving me up the wall.

Stephen Clay, Basingstoke

The most likely cause for corruption is that the RAM buffer inside your printer, which stores text and graphics between the CPC sending it and its appearance on the paper, is faulty. This should just be a matter of replacing one chip, although if it's soldered in, you might feel more comfortable getting an electrician to do it for you. The chip will probably have a number such as 4116 or 4164, and a replacement is available from Maplin; their catalogue is on sale at your local WH Smith's, or phone them on 0702 554161. **Richard**



...And again

I have had a mono CPC464 Plus for about three years now and would like to do some upgrading.

1 Avatar sell a disc drive interface for 464 Plusses, but what drives would I be able to attach to it?

2 Will an old MP-1 TV modulator allow me to attach a (non-SCART) TV?

3 If I got a 3.5-inch disc drive, would there be any way of getting hold of games and utilities on 3.5-inch discs?

4 What is the best DOS around at the moment?

5 I bought Academy on tape, but when I loaded it, it wouldn't continue past the title screen saying "Press FIRE or Space". Is it compatible with the Plus, since it was made before 1990?

Robert Stewart, Herefordshire



- 1** Any standard 3.5-inch or 3-inch drive can be attached to your CPC (even a 5.25-inch one, should you so desire).
- 2** Yes, except that the power connector is slightly different on Plus machines. This means that

ABBA cause damage

No, we don't mean that the Swedish group are offending people's musical sensibilities (well, they do), but that

ABBA switches are quite dangerous to the health of your disc drive. If you have a 3.5-inch disc drive switched in as drive A:, which was last accessed somewhere after track 40, and you then switch your (40-track) 3-inch drive in as A: and try to access a disc, you'll hear a horrible noise as the floppy disc



controller tries to move the disc head too many tracks. This sounds unpleasant, true, but it can actually cause damage to disc drives if you're very unlucky.

There are two solutions; either perform a hardware reset (eg, with the Multiface's blue button) when you use the ABBA switch, or catalogue the disc just beforehand to move back to track 0. With the scarcity value of 3-inch drives these days, it's probably not a good time to trash yours.

Don't panic!



Obvious gag alert!
Techy Forum'll fish you out of any CPC problem. Send you queries to: Techy Forum, Amstrad Action, Future Publishing, 30 Monmouth Street, Bath, Avon, BA1 2BW.

Video nasties

I have a CPC 6128 with colour monitor, Video Titter by PR Fowler (on disc) and a video editing console. What I want to do is to use my video recorder and my video camera – and be able to run the title sequence from my 6128 through the editing console and onto my video recorder tape.

The instruction given in the booklet for the titter is to obtain and connect an MP2 modulator.

1 Will this work through my editing console, or only direct onto the TV screen?

2 If I do need an MP2 modulator, where can I get one from?

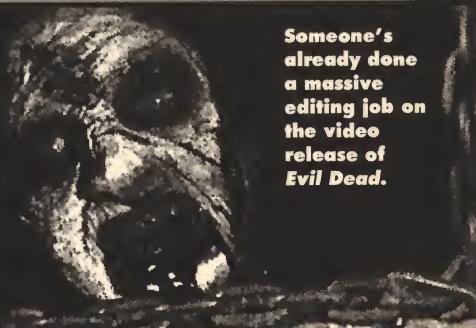
3 Is there any other item that may do the job? **Glen Johnson, Hyde**

1 If your editing console has a standard RF aerial-like input socket, you're okay. You can also buy a CPC to

SCART lead if it has a SCART connector, which should work out cheaper.

2 WAVE (0229 87000) sell a SCART version of the MP-2 for £15.99, but the RF version is harder to find. Off to the small ads with you...

3 Campursoft produce the extremely good Videomaster, which might suit your needs better. They're also soon releasing a flexible video titling system. Phone them on 041 554 4735. **Richard**



Someone's already done a massive editing job on the video release of Evil Dead.

Amnesia

I am having trouble with my 6128. The extra 64k is messed up – it corrupts things. I can't load any programs that use it. Could I buy a spare chip and put it in instead? Could you print the address of a company that could sell me one?

Craig Lawrence, Luton

It's not quite as easy as you might think, because not only is the extra 64k made up of more than one chip, but each of these chips is soldered in; you'll need to desolder each one, buy some new chips, and solder them in. But don't rush out and attempt this straight away because the problem's not necessarily a case of faulty memory chips. It's possible, though unlikely, that the VGA, the chip that controls access to the extra memory, is faulty in some way. Contact HEC, STS, WTS or any of the millions of three-letter CPC repair specialists, but phone around for the best quote before committing yourself. **Richard**

AA
It's not necessarily a case of faulty memory chips. It's possible, though unlikely, that the VGA, the chip that controls access to the extra memory, is faulty in some way. Contact HEC, STS, WTS or any of the millions of three-letter CPC repair specialists, but phone around for the best quote before committing yourself. **Richard**

AA

The one piece of hardware that everyone who uses their computer for more than just games really needs is a printer. But it'll come at a price, and we don't just mean the sort you can stick on your flexible friend. The price is sanity. To the uninitiated, printers seem like unnecessarily complex beasts, designed to be awkward. But Simon Forrester's here to put you through the initiation ceremony...

Printers are horrible. I'm not going to beat around the bush here – for something that's potentially one of the most useful hardware peripherals you'll ever buy, printers can be the most impossibly difficult machines to get working properly and use effectively. But that's something you'll have to get used to, because that's the way they are and they're not about to change; they're complex because they have to be in order to handle all the various kinds of data from various machines that they have to.

Over the next few pages, then, you're going to learn everything you need to know about printers. We're going to cover everything, from the best buys to the best printing techniques. We're going to cover the whole bit, starting by communicating with your printer.

The basics

Before we go any further, let's make sure we've got a good grasp of exactly how a CPC deals with a printer. Of course it sends messages

down the ribbon cable, but what messages does it send? More importantly, how do we send them ourselves? Make sure your printer is on-line and type in the following:

PRINT #8, "It's a printer!"

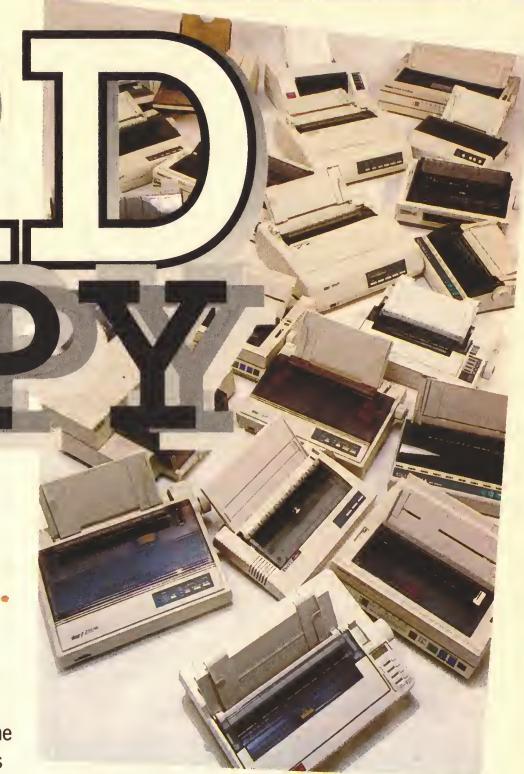
If your printer was on line, you'll have had your

```
L - Load Dict5
S - Save Dict5
R - Reset Pointer
X - Check Spelling
B - Return to BrunWord
```

DICT1	WORDS 09296	ABCD
DICT2	WORDS 07520	EFGHIJK
DICT3	WORDS 09089	LMMNOQR
DICT4	WORDS 07893	STUUVWXZ
DICT5	WORDS 00000	A-Z

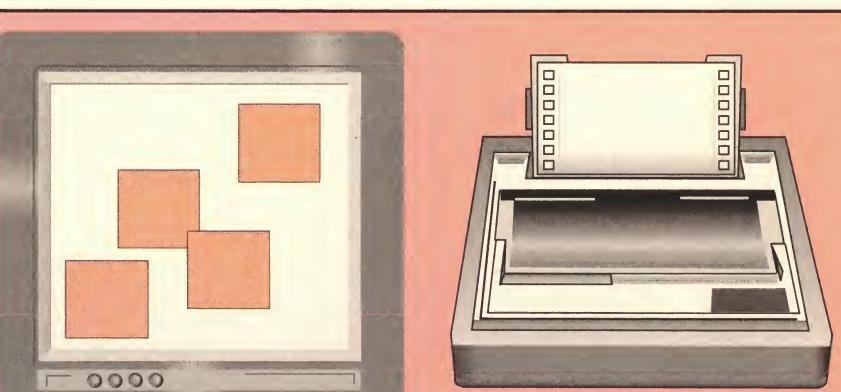
It's Brunword - still available on ROM.

HARD COPY



ears pierced with the sound of a dot matrix printer-head in full swing. That's a noise you'll be hearing a lot very soon. How did it work, though?

As well as just printing straight to the screen, the CPC has an ability known as streaming. This means it can send text to up to seven windows on-screen, these windows being boxes defined by the user at an earlier point. You can send text to these windows by prefixing the PRINT command's string with a # and a window number, followed by a comma. This is largely irrelevant to our printer, as it has nothing to do with what's printed on screen. The bit we're really



The screen on the left contains four windows, numbered one to four. The main screen is window zero. If you send something to window eight, it'll appear on the printer. The first four windows could be used for text or graphical boxes in a program.

opposed to the screen. That's how it's done.

Let's try something else, that everyone might find a use for, and machine code programmers will love. Type-in the following listing, making sure your printer is set up and ready to roll:

10·POKE ·\$B5A, &C3·POKE ·\$B5B, &C2·POKE ·\$B5C, &B9

If your screen's not now responding, look at your printer, as that's where it's all coming out. All we've done is told the CPC to redirect all the text it prints to the screen to the printer instead. This is stunningly useful for printing disc catalogues, making instant notes of calculations, or anything else that might be valuable as a permanent record. There are more sophisticated ways to do these tasks though, which we'll come to later.

Cracking the code

So we've got BASIC communication pretty much

sorted – we know how to shove things at the printer and get it to print them. If nothing comes out of your printer, you're obviously just a failure in life who'll have to submit to begging with repairmen, spending

you can't print on lumpy objects.
you can burn yourself on a print-head.
you can't print in colour by sticking a colour ribbon in a black and white printer.
you can buy units to feed in several sheets of A4 automatically.
you can't punch holes in paper with a dot matrix printer.
you can achieve anything you set your sights on (oh, very Star Trek philosophy – Dave).

Can I or can't I?

YOU CAN print any characters up to CHR\$(127).
YOU CAN'T print characters over that set, as you've only got a 7-bit printer port.
YOU CAN get an 8-bit printer port – ask at your local Tandy.
YOU CAN'T increase the resolution of your print.
YOU CAN increase the size of your lettering though, if your printer is sophisticated enough.

hours standing in shops trying to get your goods replaced, and being exiled from society for being utterly inept at anything vaguely technical (sounds like Dave). Failing that, you could read our troubleshooting box-out later on, and rejoice in just how nice we are to you.

Epson codes. I bet one third of the people reading this have curled into the foetal position and started muttering gibberish (definitely sounds like Dave). Another third will be smiling smugly, because they know just how utterly fab these little blighters are (and you lot can skip a few paragraphs). The final third is wearing a quizzical look. If your printer is Epson compatible, it'll cope with what we're about to discuss. If it's not, you'll still be able to send it codes, but the codes you're sending will be different – you can find a table of them in your manual.

Anyway, let's take a look at how these commands work. To understand the system, we need to know about ASCII codes. The ASCII set is a code system that assigns a number to each character a computer can use. The letter A, for example, has a code of 65. The numbers from 0 to 31 aren't assigned characters, though – they're used to represent back-spaces, line feeds, tab

Press printer control letter (A to Z)		
Reset printer	A	27 64
Bold (emph.)	B	27 69
Condensed	C	27 71
Italic	D	27 72
Font change 1	E	27 82 1
Font change 2	F	27 82 2
Italics	G	27 82
Normal	H	27 87 49
Normal (Pica)	I	27 89
Proportional	J	27 112 49
Subscript	K	27 83 49
Supercript	L	27 45 49

Protex's excellent Epson compatibility.

Buying your printer

If you haven't already got a printer, it's something you really ought to consider buying. They can be really incredibly useful throughout your computing life, and can be taken from one computer to another, so you won't necessarily have to buy a new one when you upgrade.

So what should you look for in a printer? The following guidelines should help you out:

- If it has Centronics or parallel ports, it'll work with your machine.
- CPS stands for characters per second – it's the universal rating for speed.
- The more pins the better the quality of the output. Nine-pins printers are the commonest cheap printers, but the output always looks 'dotty' (in a literal sense). 24-pin printers

produce much smoother results.

- Manual – you wouldn't believe it, but a good, clear manual can make or break a printer.
- Ease of use – if you're a starter, the less buttons the better. The optimum button count is three for a newcomer, we reckon.
- Aesthetics – this is a printer, not a 2CV. If you're buying printers these days, always make sure it looks worth the money you spent.
- DIP switch position – it's not a real printer unless you can get to the DIP switches easily.
- Expandability – a printer that can be added to over time (sheet feeders, a colour option, more buffer memory) is always a good thing, as you'll have a piece of technology that can keep up with the rest of your system as it develops.

PROTEXT COMMAND SUMMARY			
LOAD	L	HELP	H
SOURCE	M	SUPPLY	SP
PAGE	P	PRINTER	PR
CTRL	R	PRINTB	PB
PRINT	S	PRINTSB	PSB
PRINTS	T	PRINTT	PTB
PRINTF	V	FORMAT	FTB
FORMAT	W	FORMATB	FTB
COUNT	X	COUNTB	FTB
MODIFY	Y	MODIFYB	FTB
FIND	Z	DANISH	DAN
REPLACE	0	ENGLISH	ENG
CLEAR	1	FRENCH	FR
MODE	2	GERMAN	DEU
SPEED	3	ITALIAN	ITA
DOC	4	SPANISH	ESP
PROG	5	SWEDISH	SUE
QUIT	6	VERSION	VER

Press CLR to clear screen
Press ESC to enter edit mode

If you've got a printer, get Protex.

Jargon busting

Printers have managed to create an entirely new branch of the English language (not including all the swear words you use when the darned things go wrong). If it's all greek to you, here are a few definitions to ease your way:

- **BUFFER:** A small amount of memory your printer has to store information before it's printed. Really good printers have buffers big enough to store entire documents at a time.
- **DIP SWITCHES:** Little rows of tiny switches that manufacturers love to hide in inaccessible places on your

printer. They set the way the printer behaves, what language it prints in, what font it uses by default, and what communication system it's using (parallel being the standard). All the relevant details should be in the printer manual.

• **DOT MATRIX:** This is the method of printing onto which uses a series of 'pins' in a line which hit the ribbon in various combinations to form the letters on the paper (see the relevant box-out). Dot matrix printers come with a range of pin resolutions, the normal being 9, and the high-quality being 24. You can think of the number of pins as a rating of resolution, if it makes it any easier.

• **DRAFT QUALITY:** See NLQ.

• **DOUBLE SPACING:** leaving a blank line between every printed line, a style used in business documents a lot (for some reason).

• **EPSON CODES:** A special system of more advanced communication between most printers and most computers.

• **FORM FEED:** The printer function which tells it to start printing on a new sheet of paper.

• **FRICITION FEED:** This is where things get confusing. This use of the word 'feed' refers to the way the paper is

dragged through the printer, friction feed being single sheet paper dragged by friction (a wheel to you and me).

• **INKJET:** Is there much to explain with a word like that? It refers to the way some printers squirt a jet of ink onto the paper to form images.

• **LASER PRINTER:** These are the advanced printers used by PCs and Macs. As yet, no-one seems to have managed fitting one onto a CPC, but no doubt they will now.

• **LINE FEED:** Similar to form feed, but moving the paper up (and consequently the text position down) by one line.

• **NLQ:** This means Near Letter Quality and is the opposite of draft quality. Some printers allow you to have two printing standards, draft quality being inferior and really showing its dots. But draft quality printing doesn't wear out the printer ribbon as fast, which means that if you can get away with an inferior quality print-out (copies for your own reference, test copies, things like that) draft quality is more economical.

• **ON-LINE:** The term used to describe a printer when it's got its paper and it's waiting for input from the computer.

• **PARALLEL:** The type of printer port your CPC uses. If you see the word Centronics on your printer, that'll be okay, too. Avoid RS232-only printers like the plague, though.

Trouble shooting

Having a problem with your printer? It might not be as bad as you at first think:

"My printer won't come on-line"

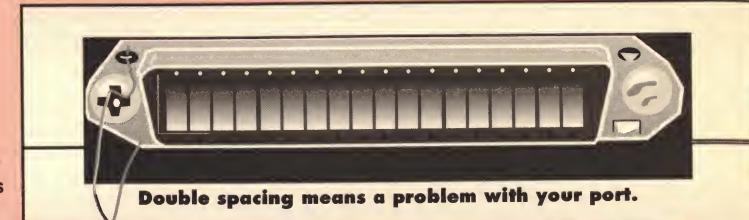
No worries – this is nearly always a problem with paper, which has to be present before your printer will start accepting any inputs. Make sure your printer knows which type of paper you're using if it needs to, as it might be sitting waiting for tractor paper while you're patiently feeding in single sheets.

"Everything is double spaced"

This month's Technical Forum has the ultimate answer to that little problem, so take a hike to page 14, buddy and check out the letter titled, 'Line-up'.

"I've got a flesh-eating virus"

Just don't cough on anything you send in to the AA office, okay?



Double spacing means a problem with your port.

"My printer is amazingly slow"

This could be a software problem. If you're using a DTP or art package, don't worry – ice ages will pass before the damned thing finishes, but it might be a good idea to check that your program's making full use of your printer's buffer.

"I've got a flesh-eating virus"

Just don't cough on anything you send in to the AA office, okay?

spaces, and other simple text operations. For example, if you wanted to move the text cursor up one line, you'd print CHR\$(9).

This is where Epson codes come into play – a

printer will happily print the character corresponding to the ASCII code it's given. When it comes across the

code 27 it behaves very differently. 27 is the escape code, and it tells the printer that the next numbers along the line will be instructions instead of text.

If you wanted italic text (slanty writing, like this

comment – Dave), you'd send the codes 27 and 52

to the printer, 27 being the escape code and 52

being the instruction itself. Let's try that out. First,

type the following into BASIC, making sure you have

your printer on-line and ready to go:

PRINT#8,"Amstrad.Action"

Then try:

PRINT#8,CHR\$(27);CHR\$(52);"Amstrad Action"

Spot the difference in what's been printed out?

The second one was in italics. To turn them off

again (you'll be stuck with them until you turn your printer off otherwise), use:

PRINT#8,CHR\$(27);CHR\$(53);

53, you see, is the code to turn italics off. Now seems like a damned good time to go through some other handy codes, actually, so check out the table titles Epson codes (well you try coming up with a clever pun of Epson that doesn't arbitrarily involve horses). You'll see some actions appear more than once, so if a code doesn't work with your printer, try one of the alternatives and you should get a result. These codes are sometimes more than two numbers long, by the way, but your printer will know what to do, so just keep going as normal.

Graphics

Printing graphics varies from printer to printer. If you look on our table of Epson codes, you can find bitmap image modes that will directly translate the information you send onto paper, instead of turning it into a character and printing that.

After issuing the command for bitmap images (it will change from printer to printer quite dramatically sometimes) you can send your images to the printer pixel by pixel, using the bits of the bytes. We could go into a full explanation here, but it really gets a bit too complicated and long winded and there are no real graphic printing operations that can't be performed by a normal printer dump program though, so you don't need to worry too much.

Utilities

Some people would like to do a little more than print text, it would seem. If you happen to be unlucky enough to own a printer and not a picture dump program, you won't have any way of getting graphics onto paper (dump is the verb for printing something out, and no smutty laughing at the back). Though we don't have space to print any such programs here, we will be including one on next month's coverpage.

If you really can't wait that long, you could always try a PD library for what you want. A library without a

Epson codes

What follows is a short list of some of the more useful Epson codes. Remember that each set of numbers is preceded by a 27. For many of the functions given, you'll find an off code as well:

Action	On	Off
Reset printer	64	
Bold	69	70
Condensed	15	18
Double strike	71	72

Paper sizes

If you've followed our buyer's guide

or were lucky when buying the printer you already own, you'll be able to print on both continuous feed and tractor feed paper. Though it comes at around £3 per ream, printing on single sheet A4 paper is always your best bet – tractor feed paper is always thin, tacky, and utterly the wrong size. It sounds like a fairly unimportant point, but A4 is a standard paper size, and you'll find you're having a lot less trouble with envelopes, fax machines, folders and the like – everything works to A4, so you'd be best to do the same.

It's nice to see that Rod Lawton has now playing the part of the baddie cowboy on the cover of CPC Domain. Unfortunately, there isn't space for Rod's mouth (not even the one from Simon Walker will get four pages). Damn...

LOOSE TALK

CREAME CHESSER PULLS OUT OF DOMAIN PD...

It's all change at the headquarters of Do... running the library due to pressure from CPC Domains. D... has gone as well. Due to taking handed the CPC Domain editorship to the Fairlie. Now John Fairlie can keep up with the new editor. CPC Domain will cease confusing. I'm going for a lie down...

Insert

Line 1 Col

Proof that CPC WPs are good – we use 'em.

screen dump program is like a building without doors – no-one uses it, and people think the owner's stupid. If you've written a printer utility of any kind, there might still be time to get it to us for inclusion on the tape, by the way.

Colour Printing

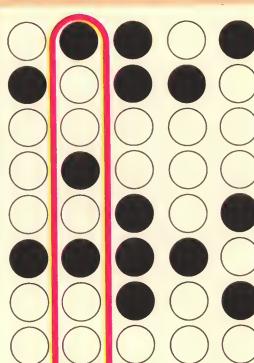
To print in glorious technicolour (well, colour, anyway) you need a colour printer. Just throwing a colour ribbon into a black and white printer won't cut it – the print head has to be able to shift up and down to access the other areas of the ribbon (the yellow, red and blue areas that make up the colour spectrum). You'll find all the relevant codes for controlling colour print-outs directly in the back of

9-pin dot-matrix printing – the truth!

The paper

The ribbon

The pins



The pins strike the ribbon and press dots onto the paper to create an image made up of dots (highlighted on the right). We really had no idea what character we were trying to print, but this diagram can also serve as a warning about what will happen if you wire your printer up without paying close attention.

• **SELF TESTS:** If you turn on your printer and hold down a certain combination of buttons, it'll slide into a self-test mode in which it prints every character it knows for you to inspect. You can usually find the correct button-combination in your printer manual.

• **TRACTOR FEED:** The method of dragging paper (see friction feed) using the holes found on the side of fan-fold tractor printer paper.

• **WYSIWYG:** What You See Is What You Get. Used to describe a package, etc., that gives an accurate on-screen representation of what your printed document will look like.

Bargains! All boxed, discs with manuals: Protect £15. Elite £5. Sim City £5. OCP Art Studio and mouse £25. Blank discs, old AAs £1 each or £50 for everything. Tel Martin (0484 843034).

CPC tape games for sale. All original. No copies. Lots of titles from 50p. Send SAE for list to Eddie, 151 Balsusney Road, Kirkaldy, Fife KY2 5LH.

CPC6128, colour, 3.5-inch drive, ROMbox; Protect, Promerge, Prospell, SDOS ROMS. Multiface; Stop Press; many games; ACU and AA; covertapes; Soft 968; 3D Construction Kit with video; mouse; and much more. £150ono. Ring Graham on 041 634 2344 for details.

Amstrad CPC464, colour monitor, keyboard, printer, disc drive, loads of tape and disc games, AMX mouse and art package, Multiface 2, 3D Construction Kit, Protect. £300. Tel 0376 320451.

Tandy TRS-80 II plus external drive £100. Also many AAs and ACUs and a few CWTAs. All £2 each or £50 for 40 mags. Write to Karl, Bryn Tre'r, Llandecwyn, Gwynedd, North Wales LL47 6YR.

PC Engine 16-bit hand-held for sale with 14 top games including Street Fighter 2 Championship edition, Airzone and Batman plus Japanese converter plus PSU £250ono. Tel Daniel on 095 282861.

Amstrad CPC464 colour monitor plus over 70 games, magazines and manual joystick. Good working condition and black computer unit. £150ono. Jim 0233 635039.

Amstrad ROM development system, EPROM blower and eraser, AMRAM 2, ROMBO ROMBOX with Utopia, CPM ROM and RODOS ROMS £100. Also serial interface with Comstar £20. 8-bit printer port £20. Phone 0621 782147.

Amstrad 6128 Plus without monitor and leads hence only £35 including postage. Ideal for 464 Plus upgrade. Tel 0527 597707 (Redditch).

Thunderblade and Outrun, will swap for They Stole A Million, Werner, Ikari Warriors, Light Force, Xenon, Druid, Spindizzy, Impossible Mission 2, Supercars, or will buy above games. Tel 0256 762244.

CPC664 with 40025 ROM, DKTronics 63K RAMpack, manuals, Amstrad Action issues 80-104 with tapes, CPM+, Protect, various disc/tape games and tape recorder £250ono. May split. 0533 414535.

CPC464 with colour monitor, joystick, manual, and 40 games, plus serious stuff - word processor and Soft 156. Amstrad Basic tutorial guide. £130ono. Dennis 0843 223671 (Kent). **Games**, Take 5 - compilation of five games for one player. Amusement Arcade - three slot machine games. Either one at £2.50 per copy on tape/disc. M Goodall, 83 High Street, Galashiels TD1 1RZ.

Magazines, games, books for CPCs for sale (including Soft 158 Firmware Guide) second-hand, good condition. Send SAE for list to A Swinbourne, 11 Vicarage View, Redditch, Worcs B97 4RF. Phone 0527 68419.

Games for sale. All originals. Include some classics. Mostly tapes. Please send SAE to David Barnsby, 10 Churchill Road, Earl's Barton, Northants NN6 0PQ.

Amstrad CPC464 green screen monitor with MP1 joystick, control pad and over 60 games on tape. AA mags 97-104. Quick sale £60. Tel 0890 883385.

Amstrad stuff. Tape games, disc games, hardware etc. SAE to Darren Littlewood, 33 Clay Flatt Lane, Rossington, Doncaster S Yorks DN11 0AZ.

Star LC24-10 printer. Full working order. Still boxed. £90 including p&p. No offers. Tel Darren 0302 864730. Also Light Gun £15. RAMDOS £10. AMX Mouse Art Stop Press £30.

Amstrad CPC464 computer with green monitor, users manual, over 30 games, word processor, cassette and joystick. All very good condition. £75ono. Contact Glen 061 740 2688.

Multiface, Insider, books including Soft 968, AAs, ACUs, software inc. Maxam, Lemmings. £400-worth, will sell for £200 or split. Buyer collects (Cardiff). Rachael 0222 530607.

Assorted computer games, all new to suit Amiga, Atari ST, C64, Amstrad and IBM PC. All popular titles. Prices starting from £1. Phone 0332 771303.

Amstrad CPC464, colour monitor, joystick and games, VGC. £90ono. Tel 0543 506095 (Cannock area) after 4pm.

CPC464 with colour monitor, disc drive, Multiface 2, 64k upgrade, AMX Mouse, loads of games, Mini Office 2, OCP Art Studio, VGC. £300. Tel 0933 674441 (5-9pm).

Games sale. Full pricers from £2.50. Budget from 50p. carts from £5. All games are on tape (er, apart from the ones on cart surely? - Dave). Includes Super Cauldron and Nigel Mansell World Champ. Phone Neil 0865 379552.

CPC6128, colour/monochrome monitors, RS232, joystick, printer Brother M1009, office software, games (Kung Fu Magick, X-Out). Lots more, 26 magazines, five books, cables, manuals. Crazy price - £199. Tel Smith ansaphone 0283 221640.

For sale - lots of Amstrad CPC software (serious/games, tape and disc) and magazines. Reasonable prices. Send SAE for list to M Ruegg, 8 The Horse Park, Carrickfergus, Co Antrim, BT38 7ED.

Amstrad CPC6128, colour monitor, keyboard, disc drive, joystick, bug, manual, word processing packages, Mini Office, Protex, 22 games, AA mags, excellent condition, £150. Tel 0772 600532.

Amstrad 464, green monitor, Amstrad Basic, also other books, all manuals, many tape games and utilities. Excellent condition. Five years AA, all bound. £100 the lot. Phone 081 988 2989 after 5pm.

CPC6128, colour monitor, disc drive, arcade joystick, head cleaner, manual. Over 20 games including Driller, F16, Batman. Dust covers, over 20 AAs. Excellent working condition (what, the AAs? - Dave). £195ono. Tony 0732 833756 (Sevenoaks) evenings, weekends. **Tas-sign** for CPC6128. Sign/poster making program on disc. As new. £20. 081 422 5372.

DKTronics Light Pen for CPC6128, includes all instructions, ROM software, tape software, fully boxed. Will swap for ROMDOS XL or Dart Scanner or £20. Interested? Phone 0887 820599 4pm-8pm weekdays - Graeme.

Amstrad 6128, green screen, Mini Office, mouse, joystick, manual, utilities, games and tapes. Mags and lots of spare disks, DTP, PD software. £100. Chris 091 977 1714.

Amstrad 464 plus tapes for sale. All excellent condition. From £2. Simpsons, Terminator, Wrestle Mania, etc. For list send SAE to Charlotte Duff, 77 Fairway, Kinsley, Northampton, NN2 7JX.

Amstrad CPC6128, colour monitor, genius mouse, two joysticks, software (Mini Office 2, OCP Art Studio, Lemmings and Addams Family). VGC. £200ono. 0243 552404 (West Sussex).

Amstrad 464 Plus, colour monitor, over 80 games, two joysticks, instruction manual, excellent condition. First to see will buy. £100ono. Tel Stephen 03552 44732.

Amstrad 6128 Plus, colour monitor, manual, CPM disc. One game. £130ono. 0706 624106. (Heywood).

AA back issues as new with appropriate covertapes. Issues 51-101. Will sell in lots of 10 for £20 only plus postage. Also, over 50 tapes to clear. Phone Coventry 0203 635308.

Protect ROM £15. Graduate software CPM+ ROMS £20. ROMDOS XL ROM £15. Phone 0738 29536.

Amstrad CPC6128 with colour monitor in excellent working order, manual, original system discs, dust cover, joystick, over 20 discs including Wwf, Sim City, Lemmings. £130. Phone Stephen 081 452 5242.

Amstrad CPC464 with colour monitor, joystick, over 300 games. Excellent condition. Will accept £125ono. Phone Robert, 0753 860884.

OTHER

Pacific Software - send SAE for a list of highly rated homebrew and PD titles at superb prices and with fast delivery. 37 Tringham Drive, Bury, Greater Manchester, BL8 1JW.

CPC Undercover - top reviews, up-to-date news, excellent features. Coverdisc too. All for only 80p plus SAE plus disc. 37 Tringham Drive, Bury, Greater Manchester, BL8 1JW.

Swap several Amstrad games for any SNES UK PAL version games. Send SAE with list of SNES games to Martin Scanlon, 5 Mary Street, Glin, Co. Limerick, Eire.

Assorted computer games, all new to suit Amiga, Atari ST, C64, Amstrad and IBM PC. All popular titles. Prices starting from £1. Phone 0332 771303.

Amstrad CPC464, colour monitor, joystick and games, VGC. £90ono. Tel 0543 506095 (Cannock area) after 4pm.

Amscene Directory

PD Libraries

Amsoft

Lissenny, Cloyne, Middleton, Ireland

Large range of European stuff.

Braysoft

2 St Margaret's Road, Hayling Island, Hants, PO11 9BP.

3-inch disks only.

Colbow PD

9 Aviemore Road, Hemlington, Middlesbrough

New tape-only PD library

Demon

47 Hilton Avenue, Hall Green, Birmingham B28 0PE

3.5-inch discs available.

Disk PD

Lower Dexbeer, Dexbeer, Holsworthy, Devon EX22 7LA.

0288 82348

GD PD

49 Woodville, Barnstaple, Devon EX3 2HL

Image PD

Daren Dodds, 15 Elmwood Drive, Ponteland, Newcastle-Upon-Tyne NE20 9QQ

Also provides a digitising service.

PD Fun

41 Michaelgate, Kirkby Lonsdale, Via Carnforth, Lancs LA6 2BE

A policy of 'no serious software'.

Power PD

83 Longleat, Great Barr, Birmingham, West Midlands B43.

Signal Software

83 Longleat, Great Barr, Birmingham, West Midlands B43.

Microform Fax

0772 703131

Drives, upgrades, disks, all sorts of techy stuff like that.

Sheepsoft

0446 736529

Sleepwalker PD

Disk software: Joe Moulding, 9

Meeting House Lane, Balsall Common, Nr Coventry CV7 7FX

The Vault

43 Windfield Gardens, Clybourn Road, Galway, Ireland.

010 353 91 28204

Lots of European software.

Ultimate PD

26 Woodside Road, Irby, Wirral, Merseyside L61 4UL

Specialises in 3-inch disk and tapes.

Fanzines

Amszine

Gayton, Laneside Road, New Mills, Via Stockport, SK12 4LU

0663 744863

The Eliminator

14 Station Road, Riccall, York,

North Yorkshire YO4 6QJ

CPC User

0329 234291

The UAUG's fanzine.

CPC Undercover

37 Tringham Drive,

Brandlesholme, Bury, Lancashire

A technically-minded fanzine that's also on the lookout for writers.

Ultra Games

20 Lancaster Terrace, Chester-Le-

Street, Co Durham, DH3 3NW

Cassette-based multi-format fanzine.

User Groups

Amstrad Contact

0403 753348

Sussex-based group that also runs a technical helpline for CPC users.

UAUG (United Amstrad User Group)

0329 234291

An AA-recommended user group.

They've been around for ages, guarantee a fast turn-around, and must be a much better bet than Avatar. Give 'em a go.

POKE &BB5B,0 To turn it off

POKE &BB5B,3 To turn it back on again

Isn't science amazing? (Now don't argue.)

Independent Software Companies

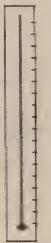
Campusoft

041 554 4735

You name it, they do it, really - take

CEMN 20: DRAW .572,0:FOR y=30 TO 370:STEP .20:PL
OT .626,y: DRAW .620,y:NEXT:LOCATE 8,1: PEN.
2:PRINT"Temperature Converter":LOCATE 4,
25: PEN .3:PRINT CHR\$(164)":Nicholas.Campb
ell.Nov.1993":WINDOW 1,35,3,23: PEN .1:SY
MBOL .255,48,72,48:DATA Celsius.to.Fahren
heit
ODFF 30:CLS:RESTORE:FOR w=1 TO 6:READ w:LOCA
TE 6,w*2+3:PRINT w;CHR\$(8)": "m":NEXT:WH
ILE .INKEY\$()":WEND:i="" WHILE i!="1" OR
i\$>"6":i=\$INKEY\$:WEND:i=VAL(i):ON .i:GO
SUB .40,40,40,70,70:GOTO .30:DATA Fahre
heit.to.Celsius,Celsius.to.Kelvin
DEII 40:CLS:IF .i=1 THEN PRINT"Enter temperature
in .CHR\$(255)"C .";:INPUT",c:IF .c<-
73.15 THEN .40 ELSE .f=c*1.8+32:t=f:PRINT"
Temperature .is .";:GOSUB .100:PRINT CHR\$(8)
CHR\$(255)"F .";:GOSUB .90:RETURN ELSE IF .i=
2 THEN PRINT"Enter temperature.in .CHR\$(
255)"F .";:
BEPE 50:IF .i=2 THEN INPUT",f:IF .f<-459.67 TH
EN .40 ELSE c=(5/9)*(f-32):t=c:PRINT"Temp
erature .is .";:GOSUB .100:PRINT CHR\$(8)CHR\$
(255)"C .";:GOSUB .90:RETURN ELSE IF .i=3 TH
EN PRINT"Enter temperature.in .CHR\$(255)
"C .";:INPUT",c:IF .c>273.15 THEN .40 EL
SE k=c+273.15
BEKB 60:IF .i=3 THEN PRINT"Temperature .is .k:CH
R\$(8)"K .";:GOSUB .90:RETURN ELSE IF .i=4 TH

Four words and a
Temperature Converter
thermometer. Yeah.



© Nicholas Campbell Nov. 1993

Workshop

This month's dissected program is the dinkiest decent word processor you're ever likely to come across...

As my mother would say, "Bloody hell, it's a word processor in only ten lines of BASIC!" Once you've started editing your text (the key presses are all shown on-screen), you might want to stop. If so, type a line that consists solely of the word 'EXIT', in capital letters. Eee by eck – that Campbell lad's done us proud. How does it all work, though?

Line 1

Why do people do this? Huge REM statements waste people's time typing in, so why are they there? That's one line wasted that could have been used for so much other useful stuff.

Line 2

When you're cramming as much into a line as possible, saving characters where you can is always a good thing to do, as there's an upper limit of 255 characters per line. Line 2 is a classic example of a PRINT command with absolutely no punctuation – the command's functions are just all thrown on there in an unfathomable mess, that manages to be a hell of a lot more economic with space, and so is a Good Thing.

Line 3

Well, waddya know? It's that RESTORE command we were talking about last month. Anyone not already familiar with what it does should start buying back issues.

Line 4

The big giveaway (well it was pretty obvious anyway) as to how the text is stored comes with the DIMensioning of a variable to 1000 strings in length. This is a lot of text, so I can't imagine anyone running out of space. Each string can be accessed by using t\$(n), where n is any number from 1 to 1000.

Lines 6 & 8

Last month in Basically BASIC, we saw how we could store information in DATA statements elsewhere in the program. Nicholas is using this feature of BASIC to display his info message within the program. One thing that's well worth pointing out is that even though two DATA statements contain halves of the same message, the two are quite happily split up by a lot of program. The READ command wouldn't even notice the gap, though, so this method of using space where it's available is fairly nifty.

Line 7

Even though this is just a reader Type-In, the print option tests whether a printer is ready or not. This is achieved with the line
IF .INP(&F500).AND .64, which, when follows with a THEN command, will carry out the instruction following if the printer is not on line.

PDNK 70:CLS:IF .i=5 THEN PRINT"Enter temperature
in .CHR\$(255)"F .";:INPUT",f:IF .f<-4
59.67 THEN .70 ELSE k=(5/9)*(f-32)+273.15
:PRINT"Temperature .is .";:GOSUB .100:PRINT
CHR\$(8)CHR\$(255)"C .";:GOSUB .90:RETURN

KBFJ 80:f=(k-273.15)*1.8+32:t=f:PRINT"Tempera
ture .is .";:GOSUB .100:PRINT CHR\$(8)CHR\$(25
5)"F .";:GOSUB .90:RETURN

PCJD 90:PRINT:PRINT"Press any key to continue
.":WHILE .INKEY\$()":WEND:CALL .&BB18:RETU
RN:DATA Kelvin.to.Celsius,Fahrenheit.to.
Kelvin,Kelvin.to.Fahrenheit

OAIE 100:IF .t<0 THEN PRINT"-t .":RETURN ELSE P
RINT .t .:RETURN

Indecent proposal

Reckon you could do any better? Then prove it. You don't have to send in several listings at once, either – this month will be the last time we concentrate on one person's work. You don't have to worry about your work not being good enough, either – I'm not going to haul out anybody's crap programs just to embarrass them, so you've got no reasons to worry there.

So, send your stuff to Type-Ins, Amstrad Action, 30 Monmouth Street, Bath, BA1 2BW. And there's a tanner in it for the best one printed every month from now on.



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	4:4, x\$(2))CHR\$(156):\$1(TAB(40)*\$1)TAB(40)*\$1)	£6.99	NORTH AND SOUTH	£5.99	DRAZON/DRAGON/WOLFMAN
	CHR\$(147)STRING\$(38,x\$(2))C	£6.99	ROCK STAR ATE MY HAMSTER	£3.99	MEGA HOT
	HR\$(153):PEN .1:LOCATE 17,2:PRINT"Word-Pr	£6.99	3.99	ATV/PINBALL/BMX/TENNIS/RUGBY	
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Public Image

**Games,
demos, utilities...
all at unbelievable, rock-bottom prices! Keith Woods
checks out the latest Public Domain software.**

PD Tips

(not to be confused with the teabags)

Plus owners often find that a surprisingly large percentage of Public Domain software fails to work with their machines. The reason for this is that almost all PD software these days is compressed by Crown's brilliant Crunch and Turbo Imploder. Unfortunately, Turbo Imploder files that run directly from 'ordinary' CPCs need to be loaded in and executed from their start addresses on the Plus, all a rather

messy business. But don't panic because Public Image has come to the rescue. The following little routine, carefully crafted by Crown himself, will allow you to overcome the problem with the minimum of fuss. When prompted by the > sign, type the name of the offending file and you'll be given back

WHERE TO GO

I bet you're expecting a load of addresses now, aren't you? Well, sorry, but all you're getting here is a message to re-route to page 22, the AmScene Directory, and look under the heading 'PD Libraries' - you'll find all the addresses you need there. Most PD libraries should stock the stuff reviewed on these pages; if you find one that doesn't, they'll probably know where they can get hold of it.

48 bombs. With Minesweeper, however, you can choose a grid of any size you want, up to 38x20, and decide on the number of bombs you want to put in it. This gives you near unlimited scope for choosing different levels of difficulty (well not quite unlimited, but you don't really expect me to work out the statistics, do you?).

But let's face facts, these mine games aren't really much fun - there's far too much luck involved, which means you soon get fed up with the darned things. However, if you're partial to the odd logic puzzler and you think you can put up with a little frustration, then, with its far better range of options, Minesweeper is definitely the game to go for.

DEMINEUR MINESWEEPER

53% 65%

Look, I'm sorry, I might be being a bit dim here, but I really haven't got the foggiest idea what a GPA guy is.



Demineur vs Minesweeper

Demineur by Tom and Jerry of GPA
Minesweeper by Ralf Brostert

According to authors Tom and Jerry Demineur is based on a little known PC windows game called Umine. It would seem, though, that the game is a little better known than they realise, as there are plenty of PD clones of the game to be found, and Minesweeper is one of them.

All of these games feature a grid of grey squares. Randomly hidden beneath some of the squares are bombs, which you have to locate without setting them off. You do this using a combination of logic and luck.

To start with you must pick a square with your cursor and hit the fire button to reveal what lies beneath it. If it's a bomb, your first move is also your last. On the other hand you might uncover a number, but if you're lucky you hit on an empty square, in which case all other adjoining empty or numbered squares will instantly be revealed.

That's the luck you'll need to get you going, then comes the logic. The numbers that appear



refer to the number of bombs that lie hidden in the eight surrounding squares. So say you've got a square with the number two, and six of the surrounding squares have already been revealed to be empty or numbers, then you know that the other two squares that haven't been revealed must be concealing bombs. You can then put a little mark on these squares to remind you that they hide bombs.

And so the game continues until you either make a mistake or reveal all the squares that don't hide an explosive surprise. Unfortunately your reliance on luck doesn't stop after the first move because there will be occasions later on in the game when you will be forced to make another stab in the dark and hope for the best. This can be quite frustrating, especially if you've advanced quite a long way into the game.

Of the two versions of this game under review here Demineur has the greatest polish, with better graphics and a bit of sound (conspicuous by its absence in Minesweeper). It also boasts English instructions. However, while Demineur undoubtedly looks and sounds better, it is badly lacking in options. The size of the grid is restricted to 16x16 squares, and you can only play with either 32 or



three numbers - the file's load address, length and start address respectively. This is all the info you need. Simply type:

MEMORY &load address-1 LOAD"filename",&load address CALL &start address

With any sort of luck the program will now strut its funky stuff. Anyway, here's the routine. Type it

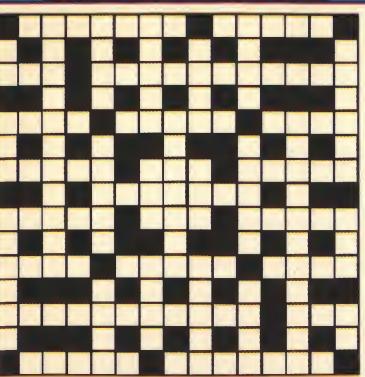
175

236

1 - Change last word

- 2 - Scan words
- 3 - Input word number
- 4 - Write block
- 5 - Erase block
- 6 - Clear memory
- 7 - Find next blank
- 8 - Word length
- 9 - Merge file
- 0 - Quit menu
- (ESC) - Help
- \$ - Sort records

MENU is shown above for reference.
The HELP pages for this menu will now be shown.
** Press any key **



GEGS (9, 4) - answers
on a postcard please to
Amstrad Action...

Clear Screen?
Y/N

Crossword Compiler

By Keith Mortimer

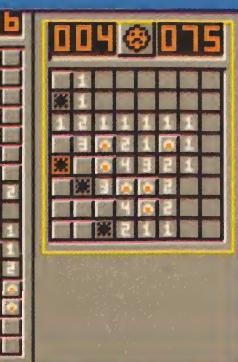
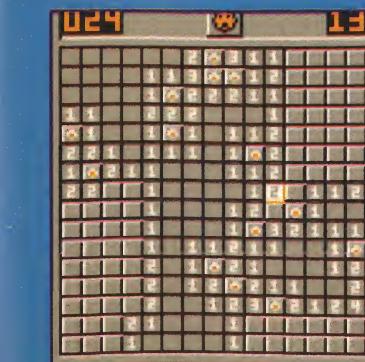
What would you say are the most popular type of magazines? Computer mags? Women's mags? Or maybe music mags? In fact, it's none of these. The magazines that shift most copies down at your local newsie's are, believe it or not, puzzle magazines. Apparently people just can't get their fill of working out wordsearches and completing crosswords.

Most importantly though, it'll help you fill those irritating gaps in your crossword by searching speedily through an 8,192 word dictionary for an

Any self-proclaimed crossword connoisseurs who have ever tried their hand at producing crosswords of their own will have found out quickly enough just what a taxing

Absolutely everything the serious crossword compiler could ever need.
in and save it to disc so you can use it any time you have the problem.
10·SPEED·KEY·8,1:ON·ERROR·GOTO·40
20·PRINT"PRINTER·?";:a\$=""·WHILE·a\$<>"N"
AND·a\$<>"1";a\$=UPPER\$(INKEY\$):WEND:PRINT·
a\$:IF·a\$="Y"THEN·p=8·
30·INPUT">";:a\$:a\$·OPENIN·a\$:CLOSEIN·
40·IF·p>8·THEN·PRINTR#Rp:PRINTR#Rp,">"·a\$
50·FOR·a=&A756·TO·&A75D·PRINTR#Rp,CHR\$(MA
X(32,PEEK(a))):NEXT:PRINTR#Rp,".";
60·FOR·a=&A75E·TO·&A760·PRINTR#Rp,CHR\$(MA
X(32,PEEK(a))):NEXT·
70·PRINTR#Rp,"HEX\$(PEEK(&A76A)+256*PEEK
&A76B),4);

In Minesweeper you can set the size of the grid on which you want to play.



task it is. Completing The Times crossword seems a doddle compared to sitting down with a blank piece of paper and trying to come up with a patterned grid (and true crosswords are always symmetrical, remember) full of interconnecting words. You'd be doing

well if you could manage a wordy 8x8 grid.

However, with the use of your trusty CPC and Keith Mortimer's excellent Crossword Compiler you too can churn out quality crosswords with the minimum of effort.

Crossword Compiler has every feature you could possibly hope for to help you compile your crosswords. It'll help you to plot your black squares without losing a crossword-like, symmetrical pattern, give you a full list of possible anagrams for any word, print out your crossword and much more besides.

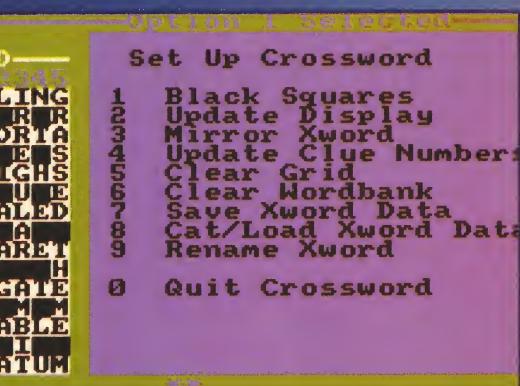
Most importantly though, it'll help you fill those irritating gaps in your crossword by searching speedily through an 8,192 word dictionary for an

appropriate word. The usefulness of this facility cannot be overestimated. For example, how long would it take you to think of an eight letter word with O as its second letter, N as its fourth letter and R as its seventh letter? While finding such a word might take us mere mortals half a day, Crossword Compiler suggests BOUNDARY and ROUNDERS in less than three seconds (a feature which is dead useful for solving crosswords as well as compiling them).

Crossword Compiler must be the one of the best utilities in the Public Domain. It's so user-friendly it's an absolute joy to use. Needless to say extensive instructions are provided, but it's unlikely you'll need them because the program is so intuitive to use. Unfortunately, the mammoth dictionary needs 128k, so 64k owners have to do without the best of the many excellent features.

It really is impossible to imagine a better crossword compiler for the CPC. The only one drawback I can see with owning this program is that you'll end up wasting all your time producing crosswords you don't need!

95%



80·PRINTR#Rp,"HEX\$(PEEK(&A76D)+256*PEEK
&A76E),4);
90·PRINTR#Rp,"HEX\$(PEEK(&A76F)+256*PEEK
&A770),4);100·CLEAR

Other stuff

Other than compressed programs, there is little other Plus-incompatible software in the Public Domain. However, Xyphe's Fantasy's loader does throw up the irritating, 'Press play then any key' message (great when you've got a machine without a built-in tape interface).

To get around this irritation all you need to do is run the program directly from another file (which is usually hidden, you know how it is with these things). Simply type RUN"BANK4.BIN" and you'll be massacring beautifully-animated wildlife in no time.

Another offender is Made's Rebels slideshow. Since Made is undoubtedly the CPC's best graphic artist you'd be loath to miss this overscanned viewing feast simply because the menu features the familiar problem of a Plus-incompatible keyscan. You'll be happy to know that all the screens can be found hidden away in user 24, which can be accessed by typing:



POKE·&A701,24
Now catalogue the disc and you'll see all the pictures filenames. To load any of them type:
LOAD"filename",&A000:CALL·&A000

Here ends the Public Image Public Service announcement.

AA

Having trouble getting our listings to work?

Don't panic - turn to page 23 and check out the box titled TYPING LISTINGS for a complete explanation of how to type-in the listings you'll find throughout the mag.

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The Examiner

He turned. The hideous sight he saw was indescribable*. He fell in terror and his last ever thought was, "I wish I'd read Debby Howard's adventure column."

Letters

- I am having a lot of trouble in the adventure Starwreck. Could you please tell me where the lift is? Also in Wizbiz, I've been told to fish at the river, which is all very well, but I just can't find a river.
- John Armour, Liverpool.

The lifts (or elevators as they're called in this adventure), are west, west, west, south, west from the start point which is the Captain's Cabin. The command for using the lifts is UP or DOWN depending on where you want to go. In Wiz Biz you need to VAULT OVER WALL south of where you find the PROP then just go east, north and FISH. **Debby**

- How do I pick up the key from across the Vast Chasm in Vampire?
- Dennis Tilt, Herts.

Well, you've got me on that one, because I've never actually played Vampire. Perhaps somebody else might know the answer to that question and write in. **Debby**

- Where can I get Bored Of The Rings?
- Jeremy Goldsmith, West Sussex.

I've had quite a few letters asking me where certain old adventures can be bought. Unfortunately you won't be able to purchase them new any more because most of the software houses that sold them have stopped distributing them on the 8-bit market! But you can buy them second hand. Try placing an advert in the small ads section of AA. **Debby**

Lords & Ladies of Adventure

If you are stuck in a game listed below, these kind souls are willing to help you. Please remember to enclose an SAE with your enquiry and DON'T ask for a full solution, as you might be disappointed. If you want to become a Lord or Lady please write in with your full list.

• Adult II, Adventure Quest, Adventures Of Zebedee Gonig, Aftershock, Agatha's Folly, Alien Planet, Al-Strad, Amstrad Action Adventure, Angelicus Answer, Angelicus Saga, Angelique, Antidote, Apache Gold, Arena, Arnold Goes Somewhere Else, Astral Plain, Atalan, Aunt Velma's Coming To Tea, Axe Of Kolt, Ballyhoo, Base, Behind The Lines, Bestiary, Big Sleaze, Big Top, Black Fountain, Black Knight, Blue Raider, Boggit, Book Of The Dead, Border Harrier, Boredom, Bounty Hunter, Brawn Free, Bugsy, Burrough Castle, Cacodemon, Can I Cheat Death? Captain Kook, Case Of The Beheaded Smuggler, Case Of The Mixed-Up Shymer, Castle Adventure, Castle Warlock, Cave Capers, Cave Of Darkness, Caves Of Bew Bews, Caves, City For Ransom, City Of Shadows, Colossal Adventure, Colour Of Magic, Corya Warrior-Sage: Dragon, Conch, Countdown To Doom, Crash Landing, Crispen Crunchy, Crown Jewels, Crystal Theft, Cursed Be The City, Dance Of The Vampires, Dances With Bunny Rabbits, Danger Adventurer At Work, Danger Adventurer At Work 2, Dark Manor, Darkest Road, Dark Sky Over Paradise, Dave Dangerous, Davy Jones Locker, Dead End, Deadenders, Desmond Of Gertrude, Detective, Dick-Ed, Die You Vicious Fish, Doormlords, Dragon Slayer, Drake, Druids Moon, Dungeon, Dungeon Adventure, Dungeons Dragons Amethysts, Dungeon Of Hell, Elsinore Diamond, Escape, Escape From Alien Spaceship, Escape From Koshima, Escape From The Planet Of Doom, Experience, Fantasia Diamond, Fantastic Adventure, Federation, Firestone, First Past The Post, Flight From Danger, Floof, Roots Of Worlds End, Four Symbols, Foxy, Fugitive, Galaxias, Gerbil Riot Of '67, Get Me To

Cluepot

Key To Paradox

Objects and Uses...

- Angel
- Book Of Calls
- Box
- Cage
- Candle
- Crowbar
- Dark Angel
- Dig (1)
- Dig (2)
- Dig (3)
- Eye
- Fish
- Flowers
- Frog
- Fruit
- Hat
- Heart
- Ice
- Idol
- Iron Y
- Key
- Knife
- Lawgiver
- Master
- Mouse (1)
- Mouse (2)
- Organ
- Parchment
- Pill
- Sandcastle
- Satchel
- Seeds
- Serpent
- Snake
- Spell
- Staff
- Tree
- Wax

Are you playing Heroes of Karn or what?
No obvious usage.
Transports you through paradox from chasm.
Give it to the dark angel.
Mix candle with it for wax.
Will give codeword for book.
The key to Paradox at the end.
Replace it in idol.
To cut the wolf.
Speak to him.
Speak to him then answer his riddle.
Drop in front of the cat at tower.
Move around a mat for icons etc.
Play to attract the angel.
Bears the word of power.
Makes you smaller for entering sandcastle.
Build it at hat location.
At start, needed to carry objects.
Turn into flowers by magic.
Carry butterfly to lull it.
Was on holiday when this game was written.
Read it from book of calls.
Plant it on mountain for tree.
Climb it to cross fissure.
Put in ears to dull sounds.

Where to go

- If you're looking for new and re-released adventures, then drop these people a line (enclosing a SAE) for their latest stock list.
- WoW Software, 78 Radipole Lane, Weymouth, Dorset, DT4 9RS.
- Amstrad Adventure Solution Service, 10 Overton Road, Abbey Wood, London, SE2 9SD. (This is a solution/map service they do not sell adventures).
- Adventure Workshop, 36 Grasemere Road, Royton, Oldham, Lancashire, OL2 6SR. (he's just showing off - Dave).

Cheat Mode

Who says cheats never win? They do if they read Lee Rouane's round-ups of games tips, pokes and solutions every month in AA.

GROUND ZERO

Penned by Lee (I like that name) Cleary of Rotherham, this solution should rekindle all those midnight playing sessions. Then again ...

- 1 Go LEFT and get the deposit box key from the cafe.
- 2 Exit the cafe and go RIGHT and get the green key.
- 3 Go RIGHT into the first house. Get the bank book.
- 4 Exit the house and go RIGHT until you see a gap in the fence.
- 5 Go UP through the gap then go LEFT into the bank.
- 6 Pick up the deposit box and use the deposit box key to open it and get the coded message.
- 7 Drop the bank book and the deposit box and go back to the gap in the fence and press UP.
- 8 Go RIGHT and then use the green key in the green padlock (it's a bit like *The Crystal Maze*).
- 9 Go inside the room, then drop the green key and get the pliers.

HELP!

Help!
I am stuck
on the volcano and
the trolls bridge in *Magicland Dizzy*.
Byron Atkinson, Eastfield, Scarborough.

To get past the troll, make sure you have the dagger, and then get the stick out of the trees. Go to the troll and you'll see a goat. Cut the rope that holds the goat and hit it with the stick. The enraged goat will get rid of the troll for you. Before you can get across the volcano you will have to have cured all of the characters. Once you have done this, clouds will appear over the volcano. Jump on the cloud in the dead centre of the screen, then walk right a tad and jump off on to the other side.



● Batty – Could you please give him a Multiface poke for Infinite Lives on the Vol 2 Hit Pak Disc. Anne Osbourne, Lenham Heath, Kent.

● Treasure Island Dizzy – You are actually going the wrong way here. The crab is impassable so you will need to find your way to the magic wall of water. Once there simply walk through the waterfall (wearing the snorkel) to get the dynamite.

● Fantasy World Dizzy – Find and enter the attic

where you should find a fleshy bone. Pick up the bone, and go back down to the rhino. Then, next to the rhino there should be a small ledge with a rock underneath. Run as quickly as possible under the ledge, and pick up the rock whilst at the same time dropping the bone. Now run as

quickly as possible away from the rhino. The rhino should then eat the bone leaving you free to pass.

● Ruff & Ready – This poke will work on the tape version of the game.

5301,00 Infinite Time

● Batty – These pokes should work on the disc version, but if you still have problems send the offending disc and return postage to the usual Bath Cheat Mode address.

4515,00 Infinite Lives Player 1

4523,00 Infinite Lives Player 2

● If you have a specific game query, write to Help! Cheat Mode, Amstrad Action, Future Publishing, 30 Monmouth Street, Bath, Avon BA1 2BW

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● Ruff & Ready – Can you please supply a multiface poke?

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Lee Cleary, Maltby, Rotherham.

Here goes. Dora is in the Spooky Cave and to free her you will need the jar to catch the firefly. Then, with the aqua lung, the glowing jar and the tasty seaweed find and enter the Spooky Cave. Drop the seaweed to get rid of the bats, use the firefly and the glowing jar together to light the cave. You will now be able to get the glass slipper from Dora. Give this slipper and five gold stars to Theo to free her. On to Theo now. Theo's job in the game is purely to help you. You need to give Theo one item from each character and five stars and then Theo will rescue them. Theo himself, however, cannot be rescued.



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Further reading

It's the fanzine review page which dared not to be called 'zine scene'. Dave Crookes checks out the latest CPC literature fresh off the photocopier...

But first, the headlines...

● First came the UAUG convention which brought together a whole group of its members in Surrey. Now comes the news that the other main CPC user group, WACCI, is planning a similar convention in either Manchester, Birmingham or Sheffield. Watch this space (but not for too long or else folk'll think you're pretty weird).

● Another World (35 Marlborough View, Cove, Farnborough, Hants. GU14 9YA) is the latest in a growing line of disc magazines. Each issue of Richard Avery's 'zine will contain a few tutorials and reviews as well as a few bits of software (Zap T' Balls was included in issue one). It costs the reasonable sum of £1.50 and you must send an SAE and disc.

● CPC Undercover (37 Trimingham Drive, Bury, Lancashire. BL8 1JW) is on the lookout for writers so if you can help get in contact. It sells for only 80p plus a disc and a SAE for those who are interested.

WACCI

Price: £1.50
Editor: Clive Bellaby
Address: 7 Brunswood Green, Hawarden, Deeside, CLYWD, CH5 3JA

There are some questions to which the answers may never be known. Like, how was Stonehenge built? Do UFO's really exist? What does WACCI stand for. Pardon? What does WACCI stand for? It's one of the best kept secrets, that's for sure. Spooky, eh?

WACCI really is the premier magazine for serious CPC users. Every one of its 32 pages is chock-a-block full of absolutely non-games coverage. In fact, it claims to be the UK's only serious CPC magazine. Probably true, too. Because of the lack of pictures, each page has so many words it takes quite a while to plough through. But it's not a chore. No way. It is one of the best CPC reads available. The latest issue has all of its regular slots: Very Basic Basic, a machine code tutorial, a PIP tutorial (you'll have to read it to find out what it is if you don't already know), and a CP/M tutorial. To balance all these staples could pop out and bop you in the nose at any moment.

Issue 44 has a different look but unfortunately looks are not CPC User's forte. The same font is used throughout the

On the down side is the lack of pictures. WACCI would retaliate by pointing out that it leaves more room for text but illustration can be more than just aesthetic dressing – a picture can say a thousand words, and a decent diagram can notch up a few hundred as well. Despite that the layout is pretty good; one of the best in fact.

Issue 77 has loads of letters and this enables the magazine to convey the same sort of friendly feel as CPC User. Joining WACCI, as with CPC User, gives you access to their PD library, book library, helpline, cheap discs and labels and even

REVIEW

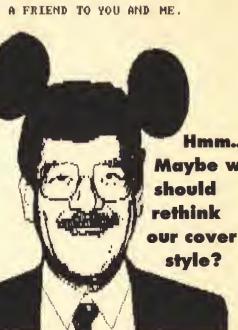
Content: 90%

Appearance: 86%

Overall: 89%

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M.I.C.K.E.Y
C.L.I.V.E

Hmm...
Maybe we
should
rethink
our cover
style?

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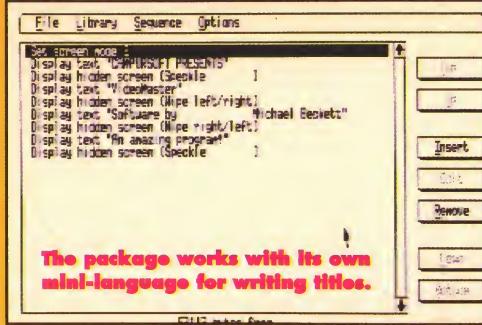
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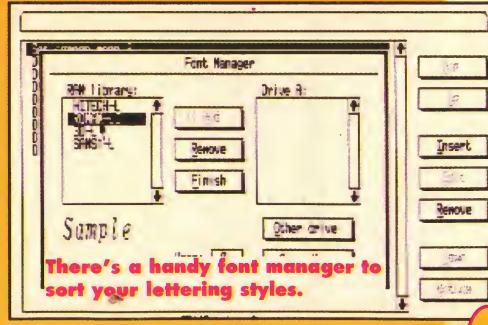
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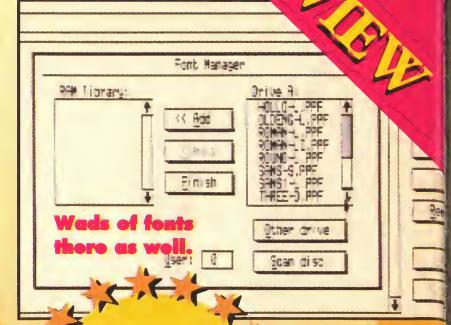
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The package works with its own mini-language for writing titles.



There's a handy font manager to sort your lettering styles.



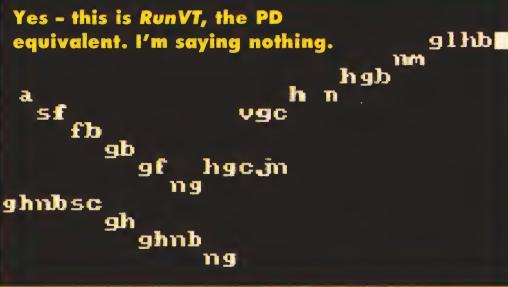
Wade of fonts there as well.

Video titling system

There are a lot of CPC users out there with truly massive video collections. Dave owns nearly every Star Trek episode ever produced on video, as well as about a billion other films. But for some people, watching videos isn't half as much fun as shooting them themselves. The problem is that for other people, watching these home-made videos is

be. Yes, all you budding film directors out there will soon be able to add title sequences to your masterpieces.

The system lets you edit a sequence of CPC-created text or graphics that can be piped down an Amstrad modulator or other piece of



Yes - this is RunVT, the PD equivalent. I'm saying nothing.

CAMPURSOFT PRESENTS VideoMaster

Software by Michael Beckett

Do you want to create credits like this? With Campursoft's help, you could (in a few months).

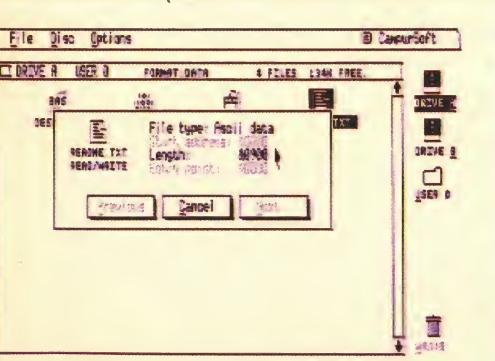
An amazing program!

often half as much fun as shooting them as well.

But help is at hand. Apart from a course in film-making at your local night school, the other way to add a touch of professional gloss to your home videos is with a video titling package.

And that just the next product due out from Campursoft, producers of Videomaster, Micro Design and DES to name but a few, happens to

A cut-down PD version of DES if now available from Campursoft, by the way.



News

There's definitely something going on between Campursoft and Siren software. It looks as if Siren will be bundling a DES ROM system into a Hackit box, allowing you to flick a switch and boot-up with DES ready and waiting for you. We'll hopefully bring more news on the system soon, but you can ring Siren software in the meantime on 061 724 7572.

Richard Fairhurst's AutoRoute CPC looks to

hardware such as Campursoft's own Videomaster (featured in AA88) onto your video recorder and placed onto video.

What you can't do at the moment is overlay the video effects created in this new system onto an existing video picture. For that you'd need a piece of equipment called a genlock, which can combine two electronically created pictures. While we've heard rumours of a couple of these being developed for the CPC, there is no firm news at the moment. So, if anyone thinks they're up to the task, there's an opening in the market now just waiting to be filled.

For more information, you can find Campursoft at 10 McIntosh Court, Wellpark, Glasgow, G31 2HW. Alternatively, you could ring 041 554 4735. If you don't feel like talking to anyone, though, you could wait a few months for a full review.



be very near completion as well. In a few months you can definitely expect to see a review of something that should make the lives of all drivers a lot easier. The system works by taking a start location and a destination, and plotting the best route between the two points, taking into account that motorways are faster. London is always packed solid, and Solihull is in Birmingham no matter what anyone tells you. We'll have a cut-down version as a covertape demo very soon, by the way.

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Gripper (128K)	Take advantage of your "plus" machine's enhanced graphics capabilities with this superb art package - all the normal features are also present	
Search out those sprites with this excellent utility	Compositor (128K)	£15.25
If you've got 128K, get Gripper - Amstrad Action	The ultimate in programming utilities, excellent for both experts and beginners alike!	
All serious programs are supplied on 3½" disc unless otherwise stated above	disc	

AT THE TIME OF WRITING, FINAL NEGOTIATIONS ARE IN PROGRESS FOR US TO SELL SOME MORE INDEPENDENT TITLES. OUR LATEST PRODUCT GUIDE WILL HAVE ALL THE DETAILS. WE ARE STILL LOOKING FOR NEW SOFTWARE TO SELL - IF YOU'VE WRITTEN SOME THEN SEND IT TO US AND WE WILL EVALUATE IT AND OFFER YOU SOME EXCELLENT TERMS FOR ITS SALE - WITH NO OBLIGATION ON YOUR PART!

GAMES SOFTWARE		
Fluff (PLUS only)	£5.95£7.95
Console style platformer utilising "plus" graphics. Given a 90% review in Amstrad Action issue 104.		
Ball Bearing	£3.95£5.95
Guide your ball through the maze while avoiding the numerous hazards.		
Justice	£3.45£4.95
Graphic adventure 'a really good example of what can be done when someone with real imagination sits down to write an adventure' - AA99		

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ALL 6	£8.45	£9.45
General X - Promote your 10 units to general status		
General Z - Save 3 arms from destroying each other		
Sector 5 - You must be 1st to conquer five sectors		

All serious programs are supplied on 3½" disc unless otherwise stated above

WE WANT TO SELL YOUR PRODUCT - SEND US A SAMPLE AND WE'LL OFFER YOU SOME EXCELLENT TERMS

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WE ARE WILLING TO PURCHASE SURPLUS STOCKS FROM OTHER ORGANISATIONS - CALL US WITH DETAILS

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3.5" Branded	£0.85	£3.95	£6.95	£12.95	£29.95	£54.95	£124.95		
3.5" Bulk	£0.55	£2.95	£4.95	£9.45	£22.45	£42.45			</